



# WritePlacer<sup>®</sup>

## Guide with Sample Essays

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## Introduction to WritePlacer®

Prompts within the ACCUPLACER® System have been carefully designed so that the student can respond quickly and in a variety of ways. Prompts are free of technical or specific literary references and do not require specialized knowledge. The prompts are designed to stimulate critical thinking and are relevant to any number of fields and interests. Students will be asked to draw on a broad range of experiences, learning and ideas to support their point of view on the issue in question.

Scores on WritePlacer range from 1 to 8. An essay that is too short to be evaluated, written on a topic other than the one presented, or written in a language other than English will be given a score of zero.

A prompt consists of a short passage adapted from some authentic text. Following the passage is an assignment that requires the student to focus on the issue addressed in the passage.

## Instructions to Students

The essay gives you an opportunity to show how effectively you can develop and express your ideas in writing. You will first read a short passage and an assignment question that are focused on an important issue. You will then write an essay in which you develop your own point of view on the issue. You should support your position with appropriate reasoning and examples. The position you take will not influence your score.

Your essay will be given a holistic score that represents how clearly and effectively you expressed your position. The following six characteristics of writing will be considered:

- **Purpose and Focus** – The extent to which you present information in a unified and coherent manner, clearly addressing the issue.
- **Organization and Structure** – The extent to which you order and connect ideas.
- **Development and Support** – The extent to which you develop and support ideas.
- **Sentence Variety and Style** – The extent to which you craft sentences and paragraphs demonstrating control of vocabulary, voice and structure.
- **Mechanical Conventions** – The extent to which you express ideas using Standard Written English.
- **Critical Thinking** – The extent to which you communicate a point of view and demonstrate reasoned relationships among ideas.

## Sample Prompt

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### Passage

*An actor, when his cue came, was unable to move onto the stage. He said, “I can’t get in, the chair is in the way.” And the producer said, “Use the difficulty. If it’s a drama, pick the chair up and smash it. If it’s comedy, fall over it.” From this experience the actor concluded that in any situation in life that is negative, there is something positive you can do with it.*

Adapted from Lawrence Eisenberg, “Caine Scrutiny.”

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### Assignment

*Can any obstacle or disadvantage be turned into something good?*

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## Sample Essays

On the pages that follow there are descriptions of each of the eight WritePlacer score points followed by two sample essays that were assigned the indicated score. Annotations are provided for each essay explaining why the essay was given the score it received. Studying these sample essays and the accompanying annotations will point out the elements considered during the scoring process.

## SCORE of 1

### Description of Score of 1

A response in this category demonstrates *no mastery* of on-demand essay writing; the response is severely flawed by *many or most* of the following weaknesses:

- Lacks a viable point of view on the issue
- Demonstrates no awareness of audience
- Fails to present a main idea
- Demonstrates flawed reasoning
- Demonstrates no complexity of thought
- Is disorganized and/or disjointed
- Displays fundamental errors in word choice, usage and sentence structure
- Contains pervasive spelling, grammar, punctuation and mechanical errors

Shown below are sample essays that received a score of 1. The annotations explain why the essay received the indicated score.

#### Sample Essay #1 – Score of 1

The question is can any obstacle or disadvantage be turned into something good? Yes it can, because even in the story he couldn't get in because of the chair and the guy tells him if it's a drama, "Smash it and if it's a comedy fall over it. But when you think about it, if a girl was guilty and was pleading to say on how she was innocent and they catch her in a lie its practically the same thing. But that's not the point but you can change a negative into a positive someway.

#### Annotations

This essay lacks a viable, coherent point of view on the issue. The writer attempts to explain that "you can change a negative into a positive," but the ideas provided are minimal and disorganized, resulting in a disjointed and, at times, incoherent essay (*Yes it can....But when you think about it, if a girl was guilty and was pleading to say on how she was innocent and they catch her in a lie its practically the same thing*). The response demonstrates flawed reasoning, no complexity of thought and displays fundamental errors in sentence structure (*But that's not the point but you can change...*). Demonstrating no mastery, this essay receives a score of 1.

## Sample Essay #2 – Score of 1

Yes, obstacles and disadvantages can be turned into something good because you will know how to over come obstacles and disadvantages in the future. You can help other people with obstacles and disadvantages because you have been in the situation, that needs help. You also can learn from them it can also help you in life and with your sucess.

### Annotations

This essay attempts to present a point of view (*Yes, obstacles and disadvantages can be turned into something good*) but fails to develop any of its ideas. The absence of support results in a disjointed essay that demonstrates no complexity of thought (*You can help other people with obstacles and disadvantages because you have been in the situation, that needs help*). The response also contains fundamental errors in sentence structure (*You also can learn from them it can also help you in life*). The response demonstrates no mastery and earns a score of 1.

## SCORE of 2

### Description of Score of 2

A response in this category demonstrates *very little mastery* of on-demand essay writing; the response is flawed by *many or most* of the following weaknesses:

- Presents a vague or limited point of view on the issue
- Demonstrates little awareness of audience
- Presents an unclear main idea
- Demonstrates weak critical thinking with little complexity of thought or with flawed reasoning
- Organizes ideas ineffectively, demonstrating a problematic progression of ideas
- Displays numerous errors in word choice, usage and sentence structure
- Contains significant spelling, grammar, punctuation and mechanical errors

Shown below are sample essays that received a score of 2. The annotations explain why the essay received the indicated score.

#### Sample Essay #1 – Score of 2

I live in a house that every body in it came from acting. I remember my mom telling me this it you in find your self bad situation, don't forget your smile with "you". I think she ment that what ever is the difficulty think always positive. For an example, I grow up in place that full with bad poeple and one time some body try to convinse me to smoke. And smoking it very bad thing. So I started to tell joukes on people that canser and after 2 minutes I change the subject. Or that every time I am getting sick and fill not so good. I am trying to see comedy movies as much as I can. Because I have been told that comedy is the best cure. I think that as an actor on the stage you need to be always ready for something rong, and if you ready and prepard. It will be good and life for your self in you all life and not only there. This experience imporent for your benfits, always a positive person and people will love you and get along with you. This mark it the best.

#### Annotations

This essay presents an extremely vague point of view on the issue. The writer discusses the value of thinking "always positive," but the ideas provided are unclear, demonstrating weak critical thinking (*For an example . . . one time some body try to convinse me to smoke. And smoking it very bad thing. So I started to tell joukes on people that canser and after 2 minutes I change the subject*). The response contains numerous and significant errors in spelling, grammar, punctuation and mechanics (*. . . you need to be always ready for something rong, and if you ready and prepard. It will be good and life for your self in you all life and not only there*). Demonstrating very little mastery, this essay receives a score of 2.

## Sample Essay #2 – Score of 2

This sentencis very good and right because you must belive that have a good and positive, something also in a bed situation. I you think so, you succeed in your life. also in a bad situation, you must think a good and be a good.

I have 3, examples from my life:

1 I basketball player I have alot of games and tugh games. I want a great player. I am always think good befor every game and also befor every practice. this thinking help me to secceed. If I lose a game I don't cry I try to take the good things from the bad game, this is not help me if I cry all the time.

2. I had a important text befor 3 years I remember this text all the time, beacuse that I got a high score, because I learned alot before this text, this text all the time in my memory because the way was very difficulte, I thought good befor the text, and I secceeded I all the time thought good and positive.

3. I didn't secceeded in the first, text driving. I didn't cry, I tried to learn from my mistakes. In the second text driving I secceeded beacuse I thought positive and I said to myself that I good driver and I will secceed.

From this exampls I can to learn that I you think good and positive you secceed all the time. Also if you mistake or don't secceed you must to take the good and the positive from your mistakes. I can to say to the end that if you thought good and positive and you learn to take all the positive things. you be enjoy and you will be fun and you succeed, all the time, you need to learn from the mistakes.

Thare arnet perfect people!

Bielive yourself!

### Annotations

This essay presents a point of view (. . . *you must to take the good and the positive from your mistakes*) but is unable to develop its ideas clearly. Although there is an attempt to organize the response around three examples, errors in word choice, usage, sentence structure, spelling, grammar and punctuation are so numerous and significant that meaning is obscured (*I had a important text befor 3 years . . . because I learned a lot before this text, this text all the time in my memory . . . and I secceeded I all the time thought good and positive*). The response demonstrates very little mastery and earns a score of 2.

## SCORE of 3

### Description of Score of 3

A response in this category demonstrates *little mastery* of on-demand essay writing; the response is flawed by *one or more* of the following weaknesses:

- Presents a vague or limited point of view on the issue
- Demonstrates little awareness of audience
- Attempts to develop the main idea though that attempt is inadequate
- Demonstrates weak critical thinking with little complexity of thought or with flawed reasoning
- Provides inappropriate or insufficient examples, reasons, or other evidence to support its position
- Is poorly organized and/or focused or demonstrates serious problems with coherence or progression of ideas
- Displays limited word choice and little sentence variety
- Contains many errors in mechanical conventions of usage, sentence structure, grammar, spelling and punctuation

Shown below are sample essays that received a score of 3. The annotations explain why the essay received the indicated score.

#### Sample Essay #1 – Score of 3

I do believe that any obstacle or disadvantage can be turned into something good. I believe this because people learn many things from their mistakes and that's the only way. In the example that is provided, the actor is obviously confused. The director makes a good point on how to work around it, and in a case where they make use of the chair that's in the way, which helps make it funny, exciting, or depressing. In a play or musical of any type, it adds meaning. Not only does an obstacle or disadvantage get turned into something good, but it can discover new things. Whenever any situation happens, such as in this case, I'd laugh if it's funny, cry if it's dramatic, make a joke out of it, or act like it didn't happen. Just keep in mind that the purpose of life is to learn from mistakes, which can turn into something good.

#### Annotations

Demonstrating weak critical thinking, this essay states a point of view (*I do believe that any obstacle or disadvantage can be turned into something good*) but offers little support beyond an insufficient discussion of the acting example given in the passage. Despite some attempt to develop the main idea, poor organization leads to serious problems in progression of ideas (*Whenever any situation happens, such as in this case, I'd laugh if it's funny, cry if it's dramatic, make a joke out of it, or act like it didn't happen. Just keep in mind that the purpose of life is to learn from mistakes, which can turn into something good*). The response contains many errors in usage and sentence structure. This essay demonstrates little mastery and receives a score of 3.

### Sample Essay #2 – Score of 3

Can any disadvantage turn into something good? Every person answers this question differently, and that is his way to live. Some are optimistic, some are pasimistic, either way, the way we answer this question is, in a way, our way of life.

Some people can look on something that to me it is wonderful and find it terrible, and other can chear me up when something sad happens, and show me a nicer and chearful way of looking on it.

A good example is what happend today, this morning. I came to take this test from my home which is a few drive from the test center for different reasons I came in late in about ten minutes, but instead of being stressed because of it, I was (and still am) quite calm, and actually in very happy and satisfied with my approach to this in compare to my father who took it very hard.

I believe that the ability to look on the bright side, in both better and worse cases, is a recipie for a better and calmer life.

#### Annotations

This essay answers the question “Can any disadvantage turn into something good?” with a vague discussion of optimistic and pessimistic approaches, demonstrating weak critical thinking. Despite providing only limited assertions and an insufficient example, the writer is able to arrive at a point of view, concluding that “the ability to look on the bright side...is a recipie for a better and calmer life.” However, flawed reasoning seriously impedes progression of ideas (*Some people can look on something that to me it is wonderful and find it terrible, and other can chear me up when something sad happens....A good example is what happend today....I came in late in about ten minutes, but instead of being stressed because of it, I was (and still am) quite calm*). Vocabulary is limited and many errors in word choice, usage, and sentence structure occur. Demonstrating little mastery, this essay earns a score of 3.

## SCORE of 4

### Description of Score of 4

An essay in this category demonstrates *developing mastery* of on-demand essay writing. A typical essay

- Develops a viable point of view on the issue
- May stray from audience and purpose
- Demonstrates some critical thinking but may do so inconsistently or use inadequate examples, reasons, or other evidence to support its position
- May lack control of organization or focus, demonstrating some lapses in coherence or progression of ideas
- Contains some errors in sentence structure and use of grammatical conventions such as word choice, usage, spelling and punctuation

Shown below are sample essays that received a score of 4. The annotations explain why the essay received the indicated score.

#### Sample Essay #1 – Score of 4

I think that most of life's obstacles or disadvantages can be turned into something good. The way you look at situations determines the outcome of a situation because if you look at the situation negatively you don't have any hope that the outcome would be positive; but if you look at the situation positively you would have a better chance at being successful at what you do. The writer in the passage saw the chair in his way as an obstruction to his performance but the producer had a broader perspective saying that he could use the chair according to what the genre of the play was. For bad things to work out we need to stop being so narrow minded and broaden our perspective on life. If you committed a crime and got caught don't just concentrate on the bad that happened in your life, use that experience to share with others showing them the hardship that goes with that type of lifestyle discouraging them not to do it. The outcome of a situation is determined by how you look at it.

#### Annotations

This essay develops the point of view that "most of life's obstacles or disadvantages can be turned into something good," demonstrating some critical thinking as it explains the value of positive thinking. However, the evidence provided - one sentence on the chair example and one sentence about breaking the law - is inadequately developed to support the position (*For bad things to work out we need to stop being so narrow minded and broaden our perspective on life. If you committed a crime and got caught don't just concentrate on the bad that happened in your life*). The response lacks focus and contains some errors in grammar and sentence structure (*use that experience to share with others showing them the hardship that goes with that type of lifestyle discouraging them not to do it*). This essay demonstrates developing mastery and merits a score of 4.

## Sample Essay #2 – Score of 4

There are many things in life that may seem to have a difficult or depressing outlook but if you try some of those things can be turned into something outstanding. For example there may be certain people you may run into on a day to day basis that may seem to carry themselves in a bad way but you have to try to get to know them because you never know that can turn out to be one of the best people in the world.

Many people in our society look at things such as driving a car, to be a very hard obstacle because they feel that it's something that is hard to do, but until they try they will never know. If we'd learn to look at the bright side of things instead of the negative then many things that we face in our life would turn out for the better. When you think you may have down all that is in your power to do to try to get the good out of something, believe me there is always someone who will be able to help you. I know that there are things that may seem too hard or difficult but if you put your mind to it everything will come out for the better. I know there have been some times in my life when I have been in some difficult situations such as the time I lost money out of my wallet and I didn't know what I was going to do. But I stopped worrying about it and it wasn't long before I had my money back. Whenever you come up on something in your life that you may think that there is no way of accomplishing

### Annotations

Demonstrating some critical thinking, this essay develops a point of view (*If we'd learn to look at the bright side of things instead of the negative then many things that we face in our life would turn out for the better*) but provides reasons and examples that are inadequate to support the position. Lapses in progression of ideas occur due to brief support and repetitive generalities (. . . *believe me there is always someone who will be able to help you . . . . I lost money out of my wallet . . . . But I stopped worrying about it and it wasn't long before I had my money back*). Some errors in word choice and sentence structure are present (*For example there may be certain people you may run into...that can turn out to be one of the best people in the world*). Displaying developing mastery, this essay receives a score of 4.

## SCORE of 5

### Description of Score of 5

An essay in this category demonstrates *adequate mastery* of on-demand essay writing although it will have lapses in quality. A typical essay

- Develops a viable point of view on the issue
- May stray from the audience and purpose but is able to refocus
- Demonstrates competent critical thinking, using adequate examples, reasons, and other evidence to support its position
- Is generally organized and focused but could lack coherence and logical progression of ideas
- Exhibits adequate but inconsistent control of language
- Demonstrates some variety in sentence structure
- Contains some minor errors in sentence structure, grammar, spelling and punctuation

Shown below are sample essays that received a score of 5. The annotations explain why the essay received the indicated score.

#### Sample Essay #1 – Score of 5

In my lifetime, I have seen many ways an obstacle or disadvantage can be turned into a good thing. Sometimes when something bad happens, it can prepare you for the future obstacles to come. For example, if a person gets a serious burn they would panic and not know what to do. If the same thing happened again, the person would be more prepared and have knowledge from the previous experience.

If someone is on crutches, about to open the door, would you open the door for them? If you are the person on crutches you would be at a disadvantage to others. But this can be turned into a good thing. You now have someone to open the door for you, and this is a good way to meet people and make friends.

Sometimes when things aren't going your way, you have to improvise a little. For example, before a basketball game you see that the other team is much taller than your team. The coach might have only made up plays for a short team. The other team is tall, but slow. You use your speed to win the game. In the blink of an eye, you've changed a disadvantage into a good thing.

The best comedians always turn an obstacle or disadvantage into a good thing. If the audience is not laughing at his performance, then he has to change what he's doing. This obstacle about the audience not laughing he could make a joke about, then making the obstacle into a good thing.

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Annotations

This essay demonstrates competent critical thinking, providing adequate reasons and examples to support the claim that “an obstacle or disadvantage can be turned into a good thing.” Although the response offers a variety of adequate supporting examples, it demonstrates an occasional lack of progression of ideas as it jumps from one idea to the next (. . . *if a person gets a serious burn . . . If someone is on crutches . . . The best comedians always turn an obstacle or disadvantage into a good thing*). The essay demonstrates adequate but inconsistent control of language and features some minor errors (*If the audience is not laughing . . . This obstacle about the audience not laughing he could make a joke about, then making the obstacle into a good thing*). Demonstrating adequate mastery, this essay receives a score of 5.

**Sample Essay #2 – Score of 5**

Life constantly harrasses modern society with a variety of problems and obstacles. But, negatives never come out without its positives. Events such as the Civil War and messages that stem from Romeo and Juliet’s tragic ending include something good even though they show obstacles of life. Therefore, society can gain good things through bad things.

The Civil War broke out in 1861 and left a terrible tear on American culture. Even after horrible battles like in Gettysburg, Americans could still come together in the late 1800’s to form a more unified society. Even after slaughterings of American “brothers” between the North and South, our country still had the ability to transform itself to what it is today.

Moreover, Romeo and Juliet also acts as an excellent example of how disadvantages proves something good in the end. Shakespeare decided to end both the main characters lives at the end of the play but by doing so, he sends the good message of love. Love is the most beautiful thing in the world. Love connects society/people together by acknowledging that through death people can come together (the Capulets and Montagues) that is one of the most beautiful things ever. Life will constantly be filled with problems but they can lead to good.

Annotations

Demonstrating competent critical thinking, this essay develops its point of view (. . . *society can gain good things through bad things*) with adequate examples from history and literature. The evidence provided is generally organized and focused, with only an occasional lack of coherence (*Romeo and Juliet also acts as an excellent example . . . Shakespeare decided to end both the main characters lives at the end of the play but by doing so, he sends the good message of love. Love is the most beautiful thing in the world*). The essay exhibits adequate but inconsistent control of language (*Life constantly harasses modern society with a variety of problems and obstacles. But, negatives never come out without its positives*). This essay exhibits adequate mastery and earns a score of 5.

## SCORE of 6

### Description of Score of 6

An essay in this category demonstrates *reasonably consistent mastery* of on-demand essay writing although it may have occasional lapses in quality. A typical essay

- Effectively develops a point of view on the issue
- Addresses an appropriate audience and demonstrates a clear purpose for writing
- Demonstrates strong critical thinking, generally using appropriate examples, reasons, and other evidence to support its position
- Is well organized and focused, demonstrating coherence and a logical progression of ideas
- Exhibits consistent control in the use of language
- Demonstrates adequate variety in sentence structure
- Is generally free of errors in sentence structure, grammar, usage, spelling and punctuation

Shown below are sample essays that received a score of 6. The annotations explain why the essay received the indicated score.

#### Sample Essay #1 – Score of 6

Obstacles and disadvantages are in our lives every second of the day. Whether it is a big test in school in an important subject or a traffic jam keeping us from getting to work on time, we can always count on something going a wry. However, even the biggest obstacles can be turned into something good if enough work is put into it.

Small obstacles, like the big test in school, can be overcome with hard work and determination. If you spend enough time studying beforehand, and doing practice questions to build your confidence, chances are you will do very well. On the other hand, if you procrastinate and do not prepare for the test until the night before it, chances are you will do poorly.

Large obstacles can be overcome with hard work and determination as well, but depending on the size of the obstacle, carefully planning, organization, and coordination are needed as well. For example, in World War II the Allied powers were fighting the Axis powers in battle after battle. The Allies needed to get into Western Europe through France and through a heavily fortified enemy. With careful planning, organization, and coordination, they launched the largest amphibious invasion in history and took the beaches of Normandy in what would be called D-day, and liberate France soon thereafter.

In conclusion, any obstacle can be overcome into something good. Tests can be studied for, traffic jams can be overtaken by detours, and wars can be won against impossible odds. Since obstacles confront us everyday of our lives, we need to be able to overcome them. If we could not, then life would not be enjoyable.

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**Annotations**

This essay effectively develops a point of view (. . . *any obstacle can be overcome into something good*) and provides generally appropriate examples of obstacles overcome with “hard work and determination,” demonstrating strong critical thinking. The response is well organized around its examples, exhibiting coherence and a logical progression of ideas (*Small obstacles, like the big test in school, can be overcome with hard work and determination. If you spend enough time studying . . . chances are you will do very well*). Control of language is consistent, and adequate sentence variety is evident throughout (*With careful planning, organization, and coordination, they launched the largest amphibious invasion in history*). This essay displays reasonably consistent mastery and receives a score of 6.

**Sample Essay #2 – Score of 6**

Life is what you make it. Time after time we are stuck with disadvantages and struggles, but it is how we receive it that makes a world of a difference. It is possible to turn obstacles into building blocks, to reach success.

My most difficult school year was during the 8th and 9th grade. The school I was attending placed a lot of stress on me - the homework was unbearable and the teachers seemed to care nothing for it. Many times as I went seeking help but would receive a cold shoulder or a slam in the face. Not only that, but I was not doing well socially with the rest of my peers. It was extremely difficult finding a way to fit in.

I could have stayed and wallowed in my misery but I decided to take the initiative and talk to my parents about the situation. Together we began building the blocks towards my success.

That next year I left the school and we began home school. In one term I taught myself the subjects and this prepared me for what was coming next. My parents with the discipline I needed and I decided it was time to move on. I took a test to enter a very high academic - perhaps the highest on my Island - school to see if I would get in. I reached something beyond my wildest dreams and was accepted. Not only that, but the next year I was appointed head girl and am training to attend Harvard College next year.

My “painful struggle” through my early high-school years lead me to make the right decisions for which school I should attend to make the best of my future. Obstacles are only put to make us stronger, hurdles are placed so that we jump higher.

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Annotations

This essay displays strong critical thinking, effectively developing its point of view (*It is possible to turn obstacles into building blocks, to reach success*) by providing a generally appropriate example from the writer's personal experience. Well organized and focused as it discusses how the writer's "painful struggle" ultimately led to her success, the response exhibits coherence and a logical progression of ideas (*I could have stayed and wallowed in my misery but I decided to take the initiative and talk to my parents about the situation . . . I reached something beyond my wildest dreams and was accepted*). Control of language is consistent, and there is adequate variety in sentence structure (*Not only that, but the next year I was appointed head girl and am training to attend Harvard College next year*). Demonstrating reasonably consistent mastery, this essay earns a score of 6.

## SCORE of 7

### Description of Score of 7

An essay in this category demonstrates *consistent mastery* of on-demand essay writing, although it may have occasional minor errors. A typical essay

- Effectively and insightfully develops a point of view on the issue
- Addresses an appropriate audience and demonstrates a clear purpose for writing in the thesis statement
- Demonstrates outstanding critical thinking, using appropriate examples, reasons, and other evidence to support its position
- Is well organized and focused, demonstrating clear coherence and smooth progression of ideas
- Exhibits appropriate language, using a varied and accurate vocabulary
- Demonstrates varied sentence structure
- Is practically free of errors in sentence structure, grammar, spelling and punctuation

Shown below are sample essays that received a score of 7. The annotations explain why the essay received the indicated score.

#### Sample Essay #1 – Score of 7

I believe that an obstacle or disadvantage can be turned into something good. Lance Armstrong, the most successful cyclist of all time, had to overcome cancer before achieving such greatness. Another possible example is Louis Armstrong. Louis was born to a single mother and lived a rough life. He was convicted of a crime and was sent to prison which is where he learned how to play the trumpet.

Before he was a seven time Tour de France champion, Lance Armstrong had to overcome cancer, a very extreme obstacle to overcome. Lance was diagnosed with testicular cancer and by the time the doctors found it, it had already spread to his brain, lungs, and other intrinsic organs. After numerous surgeries, Lance was given a fifty percent chance to live. Armstrong did not give up. After months of treatment and another surgery, the doctors found absolutely no cancer in his body. Within a year, Lance was back on the bike. He went on to win seven Tour de Frances in a row and he remains one of the greatest cyclists, if not the greatest cyclist of all time.

Louis Armstrong, one of the greatest Jazz trumpet players of all time, also had to overcome difficult obstacles in his life before achieving greatness. Louis was born to a single mother. They were poverty stricken, and were basically stuck with nothing. As a boy Louis was convicted of a crime and sent to prison. While serving his time, Louis learned how to play the trumpet from a fellow in-mate. Louis immediately fell in love with music. He formed a jazz group when he was released from prison and they started playing at local clubs and bars. On one fateful day, a record company representative heard the group and immediately wanted to sign them. If it weren't for prison Louis might not have ever even picked up a trumpet.

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From these two examples, we can clearly see that obstacles or disadvantages can become something good. Both Louis and Lance overcame extremely difficult obstacles and became some of the best there ever was. They knew that anything was possible and were not discouraged by hardships.

————— **Annotations** —————

This essay demonstrates outstanding critical thinking, effectively and insightfully developing the point of view that “an obstacle or disadvantage can be turned into something good” with two appropriate supporting examples. Well organized and focused, the essay displays clear coherence and a smooth progression of ideas as it explains how the Armstrongs, Lance and Louis, “overcame extremely difficult obstacles and became some of the best there ever was” (*Louis was born to a single mother. They were poverty stricken . . . . He formed a jazz group when he was released from prison . . . . On one fateful day, a record company representative heard the group and immediately wanted to sign them*). The essay displays appropriate language, using a varied and accurate vocabulary, and varied sentence structure appears throughout (*Within a year, Lance was back on the bike. He went on to win seven Tour de Frances in a row and he remains one of the greatest cyclists, if not the greatest cyclist of all time*). Demonstrating consistent mastery, this response merits a score of 7.

**Sample Essay #2 – Score of 7**

It is true that any obstacle or disadvantage can be turned into something positive. In a negative situation there is always a lesson that is learned, or a goal that is achieved. This idea is supported by aspects of “A Doll’s House” and the road to the Revolutionary War.

“A Dolls House”, a play by Heinrick Ibsen, proves that an unfortunate situation can have a fortunate outcome. The play tells the story of Nora Holmes and her quest for personal independence. Nora’s situation at the begining of the play seemed promising. Nora was married to Torvald, had two children, and had a stable financial situation. However beneath the facade, Nora’s life was not satisfactor to her. Torvard treated Nora as a child and did not respect her opinions as an adult. After a particularly harsh incident in which Torvard threatened her position in the family, Nora knew that she had to leave permanently. She either had to continue to endure the pain and emotional distress caused by her husband, or learn from this obstacle and use it to achieve her goal. When Nora finally left, she walked into her new life as an independent woman.

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The events that unfolded on the path to the Revolutionary War, support the thought mentioned above. At the start of the process, the colonies were a group of separate entities under the rule of Britain. Each colony led an individual existence and grew and prospered under British rule. However, after a number of happy years, the British decided to tighten its hold on the colonies. They limited the freedoms of the colonists with acts such as the Sugar Act, Stamp Act, and Townshend Acts. The colonists were outraged at this sudden removal of freedoms which they felt were rightfully theirs. To overcome this obstacle, the colonists knew they would have to join together and unite against the common enemy. When the colonies Declared Independence, they were no longer a group of separate entities, but one United whole that went on to become one of the Strongest Nations.

Any obstacle or challenge can be looked at from a positive angle. The examples mentioned above prove that there is always something positive that can result from a negative situation. We should look at challenges not as unfortunate experiences, but as chances to improve ourselves and our lives.

————— **Annotations** —————

Demonstrating outstanding critical thinking, this essay effectively and insightfully develops its point of view (*It is true that any obstacle or disadvantage can be turned into something positive*) by providing appropriate examples from literature and history as support. The response is well organized and focused, displaying clear coherence and a smooth progression of ideas (*"A Dolls House" . . . tells the story of Nora Holmes and her quest for personal independence . . . She either had to continue to endure the pain and emotional distress caused by her husband, or learn from this obstacle and use it to achieve her goal*). Practically free of errors, the essay shows appropriate use of language and variety in sentence structure (*We should look at challenges not as unfortunate experiences, but as chances to improve ourselves and our lives*). This essay exhibits consistent mastery and receives a score of 7.

## SCORE of 8

### Description of Score of 8

An essay in this category demonstrates *clear and consistent mastery* of on-demand essay writing with a few minor errors. A typical essay

- Effectively and insightfully develops a point of view on the issue
- Addresses an appropriate audience and demonstrates a clear purpose for writing in the thesis statement
- Demonstrates outstanding critical thinking, using effective examples, reasons, and other evidence to support its position
- Is well organized and clearly focused, demonstrating clear coherence and smooth progression of ideas
- Exhibits skillful use of language, using a varied, accurate, and apt vocabulary
- Demonstrates varied and effective sentence structure
- Is free of major errors in grammar, spelling and punctuation

Shown below are sample essays that received a score of 8. The annotations explain why the essay received the indicated score.

#### Sample Essay #1 – Score of 8

An obstacle or disadvantage may appear to be a setback, though either has the ability to be turned into something good. For instance, Rosa Parks participated in the Civil Rights Movement in the 1950s and 60s and was jailed for her involvement. Though her jail time was initially a setback and an obstacle she had to overcome, it eventually led to the Montgomery Bus Boycott and the gradual desegregation of the United States. Similarly, the Dean of Students at my school has to overcome the obstacle of paraplegia each day, yet he describes himself as a stronger and more sensitive individual as a result. Rosa Parks and my Dean are clear examples of obstacles being turned into something good.

In Montgomery, Alabama during the Civil Rights Movement, African Americans were required to sit in the back of public buses. One day Rosa Parks refused to sit in the back of the bus and was sent to jail for her acts of civil disobedience. This action resonated with African Americans nationwide but particularly in Montgomery. The African American people staged a boycott and contributed to the desegregation which was a goal of their movement. Rosa Parks served as a symbol of what was possible if one would simply take a stand and turn their situation from unjust and degrading to one that made a profound difference in today's society.

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The Dean of Student at my school, was an English teacher, a track coach, and the Dean of Students before the roof of his barn collapsed on him a few years ago. He had always been a strong man who genuinely cared for his students. Who respected and loved him. After his accident, he lost the use of his legs and feet and his life drastically changed. He had become unable to care for himself and lost great-amounts of self esteem. He ultimately decided he had to get his life back so he learned how to live independently through physical training courses, he learned to drive a car, and he returned to school. His experience which could have destroyed him and the goals he had actually allowed for him to build strength he never knew he had. Through his actions he made a severe disadvantage into a very positive life change.

Through their varying experiences, Rosa Parks and my dean demonstrate that any obstacle or disadvantage can be turned into something good.

————— **Annotations** —————

This essay demonstrates outstanding critical thinking as it insightfully develops a point of view (*An obstacle or disadvantage may appear to be a setback, though either has the ability to be turned into something good*), supporting it with effective, fully developed examples. Well organized and focused as it shows how people’s actions can make “a severe disadvantage into a very positive life change,” the response exhibits clear coherence and smooth progression of ideas (*After his accident, he lost the use of his legs and feet and his life drastically changed . . . His experience which could have destroyed him and the goals he had actually allowed for him to build strength he never knew he had*). The essay exhibits a skillful use of language, using a varied, accurate, and apt vocabulary (*This action resonated with African Americans nationwide*), and a varied sentence structure appears throughout. Displaying clear and consistent mastery, this essay earns a score of 8.

**Sample Essay #2 – Score of 8**

In times of desperation, it is often difficult to see the positives in a situation. More often than not, our survival instinct demands that we obliterate any obstacles in our path, without heeding the potential consequences. However, I believe, using Emily Bronte’s *Wuthering Heights* and early American history, that it is indeed possible to use these apparent disadvantages as a means to improve yourself.

The hero of *Wuthering Heights*, Heathcliff, was by any account, a man of humble origins. Not only was he an orphan without a last name, but he was also abused and tormented by other children—such as Hindley—of his new household. Constantly frustrated at every turn in life, Heathcliff as a boy could not marry Catherine—who he loved—partially because of his lowly social status. After Catherine left to marry her new husband, Heathcliff undertook a journey, in which he amasses a good deal of money and seemingly elevates his place in society.

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Although these changes are superficial, Heathcliff, used the adversity facing him as a boy as motivation to improve himself, to marry Catherine; thus his early obstacles were turned into something good (at least for him). From Emily Bronte's *Wuthering Heights*, it is evident that obstacles can be transformed into motivation, a very positive emotion.

In the 1770's, America was under the rule of a tyrant in England. Legislation, such as those that were called the "Intolerable Acts" that forbid such practices as forming a militia in Massachusetts, and the infamous "Stamp Act", which was essentially a tax forced on Americans to gain revenue for the British Empire, were passed continuously against Great Britain's colonies in America. The Quartering Act forced Americans to allow British soldiers to live in their homes, which resulted in many fights and the situation was not good. However, the early American political leaders used these dire times to rally the American people. The country, incensed by British practices, joined those rebellious leaders, such as Patrick Henry, George Washington, and John Adams, to fight in the Revolutionary War against a corrupt monarchy. If the American people had not suffered through these indignities leading up to the Revolutionary War, the United States of America probably would not exist today.

Clearly, when one is faced by obstacles at every turn, it is extremely difficult to try to twist negative experiences into positive ones. However, if one takes the model shown by Heathcliff of *Wuthering Heights* and America's early political leaders, one can use these bad experiences to totally change one's life for the better.

————— **Annotations** —————

Demonstrating outstanding critical thinking, this essay effectively and insightfully develops its point of view (. . . *it is indeed possible to use these apparent disadvantages as a means to improve yourself*). Using the effective examples of Heathcliff in *Wuthering Heights* and America in the pre-Revolutionary War era to illustrate how "obstacles can be transformed into motivation," the well-organized and focused response displays clear coherence and smooth progression of ideas (*In the 1770's, America was under the rule of a tyrant in England . . . However, the early American political leaders used these dire times to rally the American people*). The essay features a skillful use of language, displaying a varied, accurate, and apt vocabulary, and demonstrates variety in sentence structure (*More often than not, our survival instinct demands that we obliterate any obstacles in our path, without heeding the potential consequences*). This essay exhibits clear and consistent mastery and merits a score of 8.

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# Reading

**Sample Questions**

# The College Board

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## ACCUPLACER Reading Sample Questions

The Next-Generation Reading test is a broad-spectrum computer adaptive assessment of test-takers' developed ability to derive meaning from a range of prose texts and to determine the meaning of words and phrases in short and extended contexts. Passages on the test cover a range of content areas (including literature and literary nonfiction, careers/history/social studies, humanities, and science), writing modes (informative/explanatory, argument, and narrative), and complexities (relatively easy to very challenging). Both single and paired passages are included. The test pool includes both authentic texts (previously published passages excerpted or minimally adapted from their published form) and commissioned texts (written specifically for the test). Questions are multiple choice in format and appear as both discrete (stand-alone) questions and as parts of sets of questions built around a common passage or passages. Four broad knowledge and skill categories are assessed:

- Information and Ideas (reading closely, determining central ideas and themes, summarizing, understanding relationships)
- Rhetoric (analyzing word choice rhetorically, analyzing text structure, analyzing point of view, analyzing purpose, analyzing arguments)
- Synthesis (analyzing multiple texts)
- Vocabulary

## Sample Questions

### Directions for questions 1-18

Read the passage(s) below and answer the question based on what is stated or implied in the passage(s) and in any introductory material that may be provided.

*In this passage, an amateur theater group called the Laurel Players is putting on its first production.*

(1) The Players, coming out of their various kitchen doors and hesitating for a minute to button their coats or pull on their gloves, would see a landscape in which only a few very old, weathered houses seemed to belong; it made their own homes look as weightless and impermanent, as foolishly misplaced as a great many bright new toys that had been left outdoors overnight and rained on. (2) Their automobiles didn't look right either—unnecessarily wide and gleaming in the colors of candy and ice cream, seeming to wince at each splatter of mud, they crawled apologetically down the broken roads that led from all directions to the deep, level slab of Route Twelve. (3) Once there the cars seemed able to relax in an environment all their own, a long bright valley of colored plastic and plate glass and stainless steel—KING KONE, MOBILGAS, SHOPORAMA, EAT—but eventually they had to turn off, one by one, and make their way up the winding country road that led to the central high school; they had to pull up and stop in the quiet parking lot outside the high-school auditorium.

(4) “Hi!” the Players would shyly call to one another.

(5) “Hi! . . .” (6) “Hi! . . .” (7) And they'd go reluctantly inside.

(8) Clumping their heavy galoshes around the stage, blotting at their noses with Kleenex and frowning at the unsteady print of their scripts, they would disarm each other at last with peals of forgiving laughter, and they would agree, over and over, that there was plenty of time to smooth the thing out. (9) But there wasn't plenty of time, and they all knew it, and a doubling and redoubling of their rehearsal schedule seemed only to make matters worse. (10) Long after the time had come for what the director called “really getting this thing off the ground; really making it happen,” it remained a static, shapeless, inhumanly heavy weight; time and time again they read the promise of failure in each other's eyes, in the apologetic nods and smiles of their parting and the spastic haste with which they broke for their cars and drove home to whatever older, less explicit promises of failure might lie in wait for them there.

(11) And now tonight, with twenty-four hours to go, they had somehow managed to bring it off.

(12) Giddy in the unfamiliar feel of make-up and costumes on this first warm evening of the year, they had forgotten to be afraid: they had let the movement of the play come and carry them and break like a wave; and maybe it sounded corny (and what if it did?) but they had all put their hearts into their work. (13) Could anyone ever ask for more than that?

From Richard Yates, *Revolutionary Road*. ©1989 by Richard Yates. Originally published in 1961.

- The contrasts the narrator draws in sentences 1 and 2 between the Players' homes and the houses in the “landscape” and between the Players' automobiles and the “roads” are most likely meant to suggest that the Players' homes and automobiles are
  - old and neglected
  - modern and alien
  - small but expensive
  - grand but unappreciated
- Based on the passage, which of the following most accurately characterizes the claim that “there was plenty of time to smooth the thing out” (sentence 8)?
  - A comforting falsehood that the Players know to be untrue
  - An outright lie that the director persuades the Players to accept
  - An optimistic conclusion reached by outside observers watching an early rehearsal
  - A realistic appraisal offered by the director after careful analysis of the play's shortcomings
- The descriptive language in sentence 10 is mainly intended to reinforce the passage's depiction of the Players'
  - growing resentment of the director's leadership
  - increasing reluctance to work as hard as they have been
  - lingering doubts about their fellow cast members
  - persistent mood of despair regarding the play
- The narrator most strongly suggests that which of the following resulted in the transformation described in the last paragraph?
  - The change in time of day during which rehearsals were being held
  - The greater frequency with which rehearsals were being scheduled
  - The shift in the director's style from strict to more forgiving
  - The break in routine occurring the day before the first performance

### Passage 1

Green Bank, West Virginia, is a tech-savvy teenager’s nightmare. In this tiny town in Pocahontas County—population 143—wireless signals are illegal. No cell phones. No WiFi. No radio. No Bluetooth. No electronic transmitters at all. You’re not even allowed to cozy up to an electric blanket.

The remote town is smack in the center of the National Radio Quiet Zone, a 13,000 square mile stretch of land designated by the Federal Communications Commission to protect two government radio telescopes from human-made interference. The rules are most strict in Green Bank. So strict that a police officer roves the streets listening for forbidden wireless signals.

It’s necessary, though. The town is home to the Green Bank Telescope, the largest steerable radio telescope in the world—and arguably our most powerful link to the cosmos. Scientists there listen to radio energy that has journeyed light years, unlocking secrets about how the stars and galaxies formed. A rogue radio signal could prevent potential discoveries, discoveries that could answer big questions about how the universe ticks.

Adapted from Lucas Reilly, “The West Virginia Town Where Wireless Signals Are Illegal.” ©2013 by Mental Floss, Inc.

### Passage 2

Lawn mowers seem to have little in common with astronomy, but they are keeping astronomers at the National Radio Astronomical Observatory up at night. A new type of robotic lawn mower has been proposed that uses beacons to train the lawn mower to stay within property lines. The beacons, placed around the yard, transmit at the same wavelength as interstellar molecules astronomers study to understand how stars form. Humans wouldn’t notice the tiny amount of energy given off by the beacons, but the Green Bank Telescope—the size of a football stadium—is so sensitive it can detect the energy given off by a snowflake as it melts. By simply mowing the lawn, a homeowner runs the risk of interfering with one of our greatest tools for studying the universe.

The manufacturer of one “lawnbot” requested a waiver to operate within the National Radio Quiet Zone. Astronomers countered with the suggestion that the beacons be reprogrammed to transmit at another wavelength not emitted by interstellar molecules. Alternately, astronomers want global positioning system (GPS) devices added to each lawnbot to prevent them from operating within the Quiet Zone.

5. The main purpose of the last paragraph of Passage 1 is to offer
  - A. criticism
  - B. justification
  - C. exemplification
  - D. comparison
6. Which conclusion can reasonably be drawn about the status of the “lawnbot” issue at the time of the writing of Passage 2?
  - A. The manufacturer has received a waiver to operate within the National Radio Quiet Zone.
  - B. The manufacturer has changed the wavelength at which the lawnbot’s beacons transmit.
  - C. Astronomers have succeeded in getting GPS devices added to each lawnbot.
  - D. The manufacturer and astronomers have yet to resolve their conflict.
7. Which choice best describes the relationship between the two passages?
  - A. Passage 1 mainly discusses the National Radio Quiet Zone in general, while Passage 2 mainly discusses a particular threat to the zone’s integrity.
  - B. Passage 1 focuses on Green Bank, West Virginia, while Passage 2 focuses on the National Radio Quiet Zone surrounding the town.
  - C. Passage 1 evaluates drawbacks of the National Radio Quiet Zone, while Passage 2 evaluates benefits of the zone.
  - D. Passage 1 offers praise for astronomers, while Passage 2 offers criticism of astronomers.
8. Given the evidence in the passages, with which statement would the authors of both passages most likely agree?
  - A. Radio telescopes could be used to measure snowfall amounts.
  - B. The Green Bank Telescope can detect extremely small amounts of energy.
  - C. Increased sales of robotic lawn mowers may require the creation of more radio quiet zones.
  - D. The lack of modern technology has made people move away from Pocahontas County.

As soon as I saw the Manhattan map, I wanted to draw it. I should be able to draw the place where I lived. So I asked Mom for tracing paper and she got it for me and I brought it into my fort and I pointed the light right down on the first map in the Hagstrom Atlas—downtown, where Wall Street was and the stock market worked. The streets were crazy down there; they didn't have any kind of streets and avenues; they just had names and they looked like a game of Pick-Up Sticks. But before I could even worry about the streets, I had to get the land right. Manhattan was actually built on land. Sometimes when they were digging up the streets you saw it down there—real dirt! And the land had a certain curve to it at the bottom of the island, like a dinosaur head, bumpy on the right and straight on the left, a swooping majestic bottom.

From Ned Vizzini, *It's Kind of a Funny Story*.  
©2006 by Ned Vizzini.

9. In the passage, the use of “crazy,” “dinosaur head,” “bumpy,” “straight,” and “swooping” serve mainly to emphasize the
- narrator’s serious approach to mapmaking
  - narrator’s frustration with drawing
  - irregularity of downtown Manhattan
  - ways in which a landscape can change over time

The life of Edith Wharton is not an inspiring rags-to-riches saga, nor is it a cautionary tale of riches to rags—riches to riches, rather. Born Edith Newbold Jones, in January of 1862, into one of the leading families of New York, the author maintained multiple establishments and travelled in the highest style, with a host of servants, augmenting her several inheritances by writing best-selling fiction. In the Depression year of 1936, when two thousand dollars was a good annual income, her writing earned her a hundred and thirty thousand, much of it from plays adapted from her works. Yet her well-padded, auspiciously sponsored life was not an easy one. The aristocratic social set into which she was born expected its women to be ornamental, well-sheltered, intellectually idle agents of their interwoven clans, whereas Edith was an awkward, red-haired bookworm and dreamer, teased by her two older brothers about her big hands and feet and out of sympathy with her intensely conventional mother, née Lucretia Stevens Rhineland— a mother-daughter disharmony that rankled in Edith’s fiction to the end.

Adapted from John Updike, “The Changeling,” a review of the biography *Edith Wharton* by Hermione Lee.  
©2007 by Condé Nast.

10. Which choice best describes the overall structure of the passage?
- Biographical incidents are recounted chronologically.
  - An author’s life is connected to various themes in her work.
  - The works of two authors are compared and contrasted.
  - A list of advantages is followed by a list of disadvantages.

Bones found in South America reveal a bizarre new dinosaur. Based on an ancestry that links it to *Tyrannosaurus rex*, this reptile should have been a meat eater. Instead, it preferred plants. Researchers described the new species in *Nature*.

Its genus name—*Chilesaurus*—reflects that it was found in what’s now Chile. The team that discovered the fossils gave it a species name of *diegosuarezi* to honor Diego Suarez. While just 7 years old, Diego found the first dinosaur bones in the same general area of Chile. It’s a place known as the Toqui Formation.

*C. diegosuarezi* roamed South America 150 million years ago. It measured about 3 meters (roughly 10 feet) from head to tail. Its sturdy back legs, thin body and short, stout arms made it look a bit like *T. rex*. But it also had a long neck, small head and a mouth full of leaf-shaped teeth. Those gave it a *Brontosaurus*-like appearance. And like the *Brontosaurus*, it would have eaten plants, making it an herbivore.

Adapted from Ashley Yeager, “‘Frankenstein’ Dino Showed a Mashup of Traits.” ©2015 by Society for Science & the Public.

11. When the author writes that *C. diegosuarezi* “should have been a meat eater,” she most likely means that the species
- would have been healthier if it had eaten meat
  - would have grown even larger if it had eaten meat
  - had the head, neck, and teeth of a meat eater
  - had body features similar to those of its meat-eating relative

The first album that singer Leehom Wang bought as an adolescent was the Beastie Boys' *Licensed to Ill*; his first concert was Heart, at the War Memorial in Rochester, New York. As for Chinese pop music, though, Wang says he recalls hearing it only once as a youngster—when his singer uncle, Li Jian-fu, paid a visit in the 1980s and played his nationalistic-patriotic hit “Descendants of the Dragon” in Wang’s living room.

Wang didn’t know it then, but he would go on to remix “Descendants of the Dragon” for a new generation, adding new lyrics about his parents’ own immigrant experience. Over the last decade, Wang’s songs have frequently emphasized his dedication to and pride in his Chinese heritage—themes that reflect his personal journey and have a powerful commercial appeal, particularly on the mainland.

At the same time, Wang has demonstrated a strong interest in incorporating traditional Chinese music and instruments into his hip-hop and R&B-based tunes.

Adapted from Julie Makinen, “Can Leehom Wang Transcend China and America’s Pop Cultures?” ©2014 by Los Angeles Times.

12. The second paragraph marks a shift in the passage from a discussion of Leehom Wang’s
- A. family members to Leehom Wang himself
  - B. early musical influences to his later musical career
  - C. interest in the United States to his interest in China
  - D. fondness for pop music to his fondness for traditional music

Technology has scrambled the lines between public and private. Cellphones make our most intimate conversations available to anyone within earshot, while headphones create zones of pure solitude even in the midst of the liveliest crowd. Smartphones and tablets allow us to spend time with art without ever leaving the office, while sophisticated new robots enable people who are house-bound to participate in live events remotely.

Adapted from Philip Kennicott, “How to Act in Public Spaces in a Digital Age.” ©2015 by the Washington Post.

13. Which of the following would be most similar to the examples the author provides in the passage?
- A. A person’s confidential information is compromised because that person left some papers in a public place.
  - B. A person enjoys numerous television programs, so that person buys a sophisticated new television on which to watch them.
  - C. A person’s unfiltered first reaction to a major event becomes widely known because that person posts it online.
  - D. A person wants to keep a record of his or her private thoughts, so that person secretly starts keeping a daily journal.

Construction management is ideal for someone who has a general interest in building and design. Working as a construction manager affords the chance to learn a construction project from the planning stage with architects and engineers, to the budgeting stage with cost estimators, to the production stage with laborers. And that’s just a small taste of the job’s duties: Construction managers also obtain work permits, hire contractors, troubleshoot emergencies, schedule walkthroughs and keep clients informed on work timetables and progress.

Adapted from “Best Construction Jobs: Construction Manager.” ©2015 by U.S. News & World Report LP.

14. The passage most strongly emphasizes which aspect of the job of construction management?
- A. The variety of its responsibilities
  - B. The educational background it requires
  - C. The kind of person for whom it is suitable
  - D. The amount of stress it inflicts

In this passage, “serialization” refers to the publication of installments, or parts, of an ongoing story in a newspaper or magazine.

*The Pickwick Papers* (1836-7) wasn’t the original serialized novel—the format had existed for at least a century prior—but it was the work that truly popularized the form. The first installment had a print order of 1,000 copies; by the time the final entry was published, circulation had reached 40,000. Buoyed by the success of *Pickwick*, Charles Dickens serialized his work for the rest of his career, and scores of other notable Victorian novelists joined the publishing craze. William Makepeace Thackeray’s *Vanity Fair*, Wilkie Collins’s *The Woman in White* and Arthur Conan Doyle’s Sherlock Holmes stories all emerged as serials. Old and new magazines, such as *Blackwood’s* and *Household Words*, competed for established and emerging voices. The constant influx of unresolved plots and elliptical section breaks stoked a fervor for fiction in Victorian England. It wasn’t until book production became cheap and easy, and new mediums such as radio arose to fill leisure time, that serialization slowly shriveled away.

Adapted from Hillary Kelly, “Bring Back the Serialized Novel.”  
©2015 by the Washington Post.

15. Which of the following does the author offer as evidence to support the point that, for a time, serialization was highly successful?
- A. The change in circulation for *The Pickwick Papers*
  - B. The use of unresolved plots and elliptical section breaks
  - C. The decrease in cost of book production
  - D. The development of new mediums, such as radio

The neighborhood of Harlem in the twenties offered up a cultural richness that made everything seem possible. Jervis Anderson, writing in the *New Yorker* in 1981, noted, “Harlem has never been more high-spirited and engaging than it was during the nineteen-twenties. Blacks from all over America and the Caribbean were pouring in, reviving the migration that had abated toward the end of the war—word having reached them about the ‘city,’ in the heart of Manhattan, that blacks were making their own.”

Adapted from Hilton Als, “The Sojourner.”  
©2015 by Condé Nast.

16. Based on the passage, Anderson puts “city” in quotation marks most likely to
- A. introduce irony into his writing
  - B. signal a nonliteral usage
  - C. mark a citation of another author
  - D. indicate the inclusion of dialogue

Certainly, scholars are driven toward a “regression to the safe,” as science historian Alice Dreger puts it, though that is not, as she implies, particularly new in the Internet age. Since Galileo’s time, thinkers have relied on the patronage of others to fund their work, and that patronage—be it from government, business interests or individuals—generally extracts a price. In Galileo’s case, that meant softening his position on the Copernican theory under pressure from the pope. In the case of science today, despite Dreger’s argument, that pressure comes less as a consequence of political correctness than of economic forces that have shifted academic and scientific institutions to a corporate model not designed to prioritize public interests. In the academy, it is money far more than ideology that rules the day.

Adapted from Ellen Ruppel Shell, “In Science, Has Evidence Given Way to Ideology?” ©2015 by the Washington Post.

17. It can reasonably be concluded from the passage that in the author’s opinion, scientific research today is chiefly impaired by the
- A. influence of the academic institutions with which scientists are affiliated
  - B. overabundance of information available to scientists in the Internet age
  - C. pressure on scientists to make their outcomes socially acceptable
  - D. operation of economic forces potentially hostile to the common good

Sherry Turkle of the Massachusetts Institute of Technology has been writing about human-technology interactions for the past three decades. She has become increasingly wary of the capacity of online spaces to fulfill us in the ways we seem to want them to. According to Turkle, part of the problem with the internet is that it encourages self-invention. “At the screen,” she writes in *Alone Together* (2011), “you have a chance to write yourself into the person you want to be and to imagine others as you wish them to be, constructing them for your purposes. It’s a seductive but dangerous habit of mind.”

Adapted from Olivia Laing, “The Future of Loneliness.”  
©2015 by Guardian News and Media Limited.

18. The main purpose of the passage is to
- A. evaluate conflicting assessments
  - B. present a sharp critique
  - C. propose a necessary remedy
  - D. provide background details

**Directions for questions 19-20**

The following sentence has a blank indicating that something has been left out. Beneath the sentence are four words or phrases. Choose the word or phrase that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

19. Deciding that none of the nominees was \_\_\_\_\_ the award, the film committee began reviewing a new group of candidates with better qualifications.
- A. known for
  - B. pleased with
  - C. worthy of
  - D. interested in
20. Nuclear engineer Meena Mutyala argues that nuclear power is an environmentally \_\_\_\_\_ technology, operating with essentially no emissions.
- A. lavish
  - B. culpable
  - C. antagonistic
  - D. benign

## Answer Key

1. B
2. A
3. D
4. D
5. B
6. D
7. A
8. B
9. C
10. D
11. D
12. B
13. C
14. A
15. A
16. B
17. D
18. B
19. C
20. D

## Rationales

- 1. Choice B is the best answer.** Sentence 1 notes that in the “landscape,” “only a few very old, weathered houses seemed to belong”; by contrast, the Players’ houses seemed “weightless,” “impermanent,” and “misplaced,” like “bright new toys.” Sentence 2 establishes that the Players’ automobiles “didn’t look right either,” that they appeared “unnecessarily wide and gleaming in the colors of candy and ice cream,” that they seemed “to wince at each splatter of mud,” and that they “crawled apologetically down the broken roads.” Choice A is incorrect because the Players’ homes and automobiles are neither old nor neglected; in fact, the passage indicates that the homes and automobiles are modern in relation to the “landscape” and “roads” (sentences 1-2) and that the automobiles are “gleaming” (sentence 2). Choice C is incorrect because the Players’ homes and automobiles are not small; for one thing, the automobiles are “unnecessarily wide” (sentence 2). Choice D is incorrect because there is no evidence in the passage that the Players’ homes and automobiles are unappreciated.
- 2. Choice A is the best answer.** Sentence 9 establishes, in contrast to what is stated in sentence 8, that “there wasn’t plenty of time” and that the Players “all knew it.” Despite knowing better, the Players use the claim as part of the strategy described in sentence 8 to lighten the tense mood (“disarm each other,” “forgiving laughter”). Choice B is incorrect because the passage suggests that the source of the claim was the Players themselves, not the director. Choice C is incorrect because no outside observers are mentioned in the passage. Choice D is incorrect because the passage suggests that the source of the claim was the Players themselves, not the director, and because the claim is false, not realistic.
- 3. Choice D is the best answer.** The descriptive language of sentence 10—notably, “static,” “shapeless,” “inhumanly heavy weight,” “promise of failure,” “apologetic nods and smiles,” “spastic haste,” “less explicit promises of failure”—serves primarily to convey a persistent mood of despair on the part of the Players toward the play. Choice A is incorrect because there is no evidence in the passage that the Players blame the director for the problems with the play. Choice B is incorrect because the passage indicates that the Players have relatively recently undertaken “a doubling and redoubling of their rehearsal schedule” (sentence 9). Choice C is incorrect because there is no evidence in the passage that the Players blame one another for the problems with the play; instead, they share a generalized sense of failure.
- 4. Choice D is the best answer.** Sentence 10 indicates that the play “remained a static, shapeless, inhumanly heavy weight” even after numerous rehearsals. “With twenty-four hours to go,” however, the Players “had somehow managed to bring it off” (sentence 11). The narrator goes on to suggest that something about the break in routine near the very end of the rehearsal period was responsible. Feeling “giddy in the unfamiliar feel of make-up and costumes,” the Players “had forgotten to be afraid”; instead, “they had let the movement of the play come and carry them and break like a wave” and “had all put their hearts into their work” (sentence 12). Choice A is incorrect because the passage does mention that the transformative last rehearsal took place “tonight” (sentence 11) but does not clearly indicate the time of day during which prior rehearsals were held, and it seems likely, given the intensifying schedule (“doubling and redoubling,” sentence 9), that at least some prior rehearsals had taken place at night. Choice B is incorrect because sentence 9 asserts that the “doubling and redoubling” of the rehearsal schedule “seemed only to make matters worse.” Choice C is incorrect because there is no evidence in the passage that the director changed his or her style.

- 5. Choice B is the best answer.** The first two paragraphs of Passage 1 describe what might seem like extremely harsh restrictions on wireless transmissions: “no electronic transmitters at all,” “you’re not even allowed to cozy up to an electric blanket,” “a police officer roves the streets listening for forbidden wireless signals.” The last paragraph of Passage 1 serves mainly to offer justification: the restrictions are “necessary” because “the town is home to the Green Bank Telescope,” and “a rogue radio signal could prevent potential discoveries.” Choice A is incorrect because the last paragraph of Passage 1 does not take a critical tone toward the electronics restrictions in Green Bank, instead describing them as “necessary.” Choices C and D are incorrect because no example is being given nor is a comparison being made; the whole passage is about Green Bank and its electronics restrictions.
- 6. Choice D is the best answer.** Passage 2 indicates that the manufacturer of one “lawnbot” had “requested a waiver to operate within the National Radio Quiet Zone” and that astronomers had “countered with the suggestion that the beacons be reprogrammed” or that “global positioning system (GPS) devices” be “added to each lawnbot.” However, Passage 2 offers no evidence that the two sides have come to any resolution. Choice A is incorrect because while the manufacturer of one “lawnbot” had “requested a waiver to operate within the National Radio Quiet Zone,” there is no evidence in Passage 2 that the manufacturer received such a waiver. Choice B is incorrect because while astronomers had “countered with the suggestion that the beacons be reprogrammed to transmit at another wavelength,” there is no evidence in Passage 2 that the manufacturer reprogrammed the lawnbots. Choice C is incorrect because while astronomers had suggested that “global positioning system (GPS) devices” be “added to each lawnbot,” there is no evidence in Passage 2 that GPS devices have been installed.
- 7. Choice A is the best answer.** Passage 1 mainly focuses on describing the National Radio Quiet Zone in general terms: “no electronic transmitters at all,” “a 13,000 square mile stretch of land” intended to “protect two government radio telescopes from human-made interference,” “a rogue radio signal could prevent potential discoveries.” Passage 2 mainly focuses on describing one particular threat to the zone’s integrity: the “lawnbot” that “transmit[s] at the same wavelength as interstellar molecules astronomers study to understand how stars form.” Choice B is incorrect because Passage 1 is only incidentally about Green Bank (as it just happens to be “smack in the center of the National Radio Quiet Zone”) and because describing the National Radio Quiet Zone in general terms is better considered the main focus of Passage 1, not Passage 2. Choice C is incorrect because the drawbacks of the National Radio Quiet Zone are not the main focus of Passage 1 (the author refers to the restriction as “necessary,” for example) and because the benefits of the zone are not the main focus of Passage 2. Choice D is incorrect because neither passage focuses mainly on either praising or criticizing astronomers.
- 8. Choice B is the best answer.** Passage 1 notes that the Green Bank Telescope is vulnerable to “human-made interference” and that even “a rogue radio signal could prevent potential discoveries.” Passage 2 describes the telescope as “so sensitive it can detect the energy given off by a snowflake as it melts.” Choice A is incorrect because only Passage 1 mentions the Green Bank Telescope being able to “detect the energy given off by a snowflake as it melts,” and that passage does not suggest that such measurement would be a proper role for the telescope, which is instead designed to help astronomers “understand how stars form.” Choices C and D are incorrect because there is no evidence in either passage that increased sales of robotic lawn mowers may require the creation of more radio quiet zones or that people have been moving away from Pocahontas County.

- 9. Choice C is the best answer.** The narrator uses all of the listed words and phrases to convey the irregularity of downtown Manhattan: its streets are “crazy,” and the land has “a certain curve to it at the bottom of the island, like a dinosaur head, bumpy on the right and straight on the left, a swooping majestic bottom.” Choices A and B are incorrect because the listed words and phrases are about downtown Manhattan, not about the narrator’s approach to mapmaking or attitude toward drawing. Choice D is incorrect because the passage does not describe how a landscape can change; everything presented in the passage occurs over a relatively short period of time.
- 10. Choice D is the best answer.** The passage begins by listing some of the advantages Wharton enjoyed: being born into “one of the leading families of New York,” maintaining “multiple establishments,” traveling “in the highest style, with a host of servants,” having “several inheritances,” being the author of “best-selling fiction,” and earning \$130,000 in a Depression year. The passage concludes with a list of disadvantages Wharton labored under: women in her “social set” were expected to be “ornamental, well-sheltered, intellectually idle agents of their interwoven clans,” and Wharton was “awkward,” “teased” by her older brothers, and “out of sympathy with her intensely conventional mother.” Choice A is incorrect because the passage does not follow a chronological structure. Choice B is incorrect because the passage conveys only one theme of Wharton’s work (“mother-daughter disharmony”). Choice C is incorrect because the passage focuses on Wharton exclusively.
- 11. Choice D is the best answer.** The author notes that the new dinosaur “should have been a meat eater” given that it had “an ancestry that links it to *Tyrannosaurus rex*,” which, the author implies, was itself a meat eater. Like the *T. rex*, *C. diegosuarezi* had “sturdy back legs,” a “thin body,” and “short, stout arms” that “made it look a bit like *T. rex*.” *C. diegosuarezi*, however, had other features that linked it to herbivores. Choices A and B are incorrect because there is no evidence in the passage that the author thinks *C. diegosuarezi* would have been healthier or would have grown even larger had it eaten meat. Choice C is incorrect because the author indicates that the “long neck,” “small head,” and “mouth full of leaf-shaped teeth” gave *C. diegosuarezi* “a *Brontosaurus*-like appearance” and that “like the *Brontosaurus*, it would have eaten plants, making it an herbivore.”
- 12. Choice B is the best answer.** The first paragraph focuses mainly on Leehom Wang’s early musical influences: the first album he bought, the first concert he attended, and his relative lack of exposure to Chinese pop music. By contrast, the second and last paragraphs focus mainly on Wang’s later musical career: his updating of “Descendants of the Dragon,” the Chinese influences on the songs he has written “over the last decade,” and his ongoing interest in “incorporating traditional Chinese music and instruments into his hip-hop and R&B-based tunes.” Choice A is incorrect because the first paragraph mentions only one relative, Leehom Wang’s “singer uncle,” and because the focus of the whole passage is on Wang. Choice C is incorrect because while the first paragraph does discuss Wang’s interest in US popular culture, the second and last paragraphs discuss Wang’s interest in both his Chinese and US heritage and influences. Choice D is incorrect because while the first paragraph does discuss Wang’s fondness for pop music, the second and last paragraphs discuss Wang’s interest in both traditional and pop music.
- 13. Choice C is the best answer.** The examples in the passage describe in various ways how “technology has scrambled the lines between public and private.” In choice C, what might otherwise have been a private thought has been made public through technology. Choice A is incorrect because the example does not clearly involve technology. Choice B is incorrect because the example does not clearly involve technology blurring the lines between public and private. Choice D is incorrect because the example does not clearly involve technology or the blurring of the lines between public and private.

- 14. Choice A is the best answer.** The main focus of the passage is on the variety of the responsibilities of a construction manager, who must “learn a construction project from the planning stage . . . to the budgeting stage . . . to the production stage” and must “obtain work permits, hire contractors, troubleshoot emergencies, schedule walkthroughs and keep clients informed on work timetables and progress.” Choices B and D are incorrect because there is no information in the passage about the educational background required of a construction manager or about the amount of stress the construction manager career inflicts. Choice C is incorrect because there is no information in the passage about the kind of person for whom a construction manager career would be suitable beyond the broad claim that it is “ideal for someone who has a general interest in building a design.”
- 15. Choice A is the best answer.** The author asserts that *The Pickwick Papers* “truly popularized” the form of the serialized novel, noting that the first installment had a print order of 1,000 copies and that circulation had climbed to 40,000 “by the time the final entry was published.” Choice B is incorrect because the passage indicates that unresolved plots and elliptical section breaks were merely features of serialized novels, ones that helped promote serialization’s success but were not themselves evidence of the success of serialization. Choices C and D are incorrect because the passage cites the decrease in cost of book production and the development of new mediums, such as radio, as causes of the decline of serialization (“slowly shriveled away”).
- 16. Choice B is the best answer.** Harlem is identified in the passage as a “neighborhood” and “in the heart of Manhattan,” not an actual city, indicating that Anderson’s use of “city” is nonliteral. The passage most strongly suggests that Harlem is a “city” in the sense that it was a place that “blacks were making their own.” Choices A, C, and D are incorrect because there is no evidence in the passage that Anderson intended to introduce irony into his writing, was citing another author, or quoting dialogue.
- 17. Choice D is the best answer.** The author contends that patronage of science “generally extracts a price” and that “in the case of science today . . . that pressure comes less as a consequence of political correctness than of economic forces that have shifted academic and scientific institutions to a corporate model not designed to prioritize public interests” and hence potentially hostile to the common good. The author concludes that “it is money far more than ideology that rules the day” in contemporary science. Choice A is incorrect because the author depicts the academic institutions with which scientists are affiliated as subject to larger “economic forces” that have shifted these institutions to “a corporate model.” Choice B is incorrect because there is no evidence in the passage that the author considers the overabundance of information available to scientists in the Internet age as the chief impairment of scientific research today or even that she sees information as overabundant. Choice C is incorrect because the idea that pressure on scientists to make their outcomes socially acceptable (“political correctness,” “ideology”) is the chief impairment of scientific research today is attributed to Alice Dreger, not to the author herself, who argues a different position “despite Dreger’s argument.”
- 18. Choice B is the best answer.** The passage focuses mainly on presenting the critique of the Internet offered by Sherry Turkle, who “has become increasingly wary of the capacity of online spaces to fulfill us in the ways we seem to want them to” and feels that the Internet encourages “a seductive but dangerous habit of mind.” Choice A is incorrect because only Sherry Turkle’s assessment is presented in the passage. Choice C is incorrect because the passage does not propose a remedy; it only presents Turkle’s assessment of a problem. Choice D is incorrect because while the passage does present some details that might be considered background (e.g., that Turkle works at the Massachusetts Institute of Technology), the passage focuses mainly on Turkle’s critique of the Internet’s ability to support self-invention.

**19. Choice C is the best answer.** “Worthy of” means deserving respect or praise, which is consistent with the idea in the sentence that the film committee began looking for new candidates for the award when the original nominees proved unsatisfactory. Choices A, B, and D are incorrect because it makes no sense in context to describe unsatisfactory nominees for an award as being “known for” or “pleased with” the award (since none of them has received it) or “interested in” the award (since the nominees’ interest is irrelevant to their qualifications).

**20. Choice D is the best answer.** One definition of “benign” is “having no significant effect: harmless,” which is consistent with how “benign” is used in the sentence to refer to a technology that operates “with essentially no emissions.” Choices A, B, and C are incorrect because it makes no sense in context to refer to a technology that operates “with essentially no emissions” as “lavish” (abundant, profuse, excessive), “culpable” (deserving blame), or “antagonistic” (showing dislike or opposition).

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# Arithmetic

**Sample Questions**

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## ACCUPLACER Arithmetic Sample Questions

The Next-Generation Arithmetic placement test is a computer adaptive assessment of test-takers' ability for selected mathematics content. Questions will focus on computation, order of operations, estimation and rounding, comparing and ordering values in different formats, and recognizing equivalent values across formats. In addition, questions may assess a student's math ability via computational or fluency skills, conceptual understanding, or the capacity to apply mathematics presented in a context. All questions are multiple choice in format and appear discretely (stand alone) across the assessment. The following knowledge and skill categories are assessed:

- Whole number operations
- Fraction operations
- Decimal operations
- Percent
- Number comparisons and equivalents

## Sample Questions

Choose the best answer. If necessary, use the paper you were given.

- Which of the following fractions is equal to 0.06?
  - $\frac{1}{6}$
  - $\frac{1}{60}$
  - $\frac{6}{10}$
  - $\frac{6}{100}$
- A club has 36 members. If each member donates 12 items for an auction, how many items will there be in the auction?
  - 48
  - 108
  - 422
  - 432
- What is the value of  $\frac{4}{10} + \frac{3}{100}$ ?
  - $\frac{43}{100}$
  - $\frac{43}{110}$
  - $\frac{7}{10}$
  - $\frac{7}{110}$
- A conference planner has put together 280 binders for attendees and another 31 binders for presenters. How many total binders did the planner put together for attendees and presenters?
  - 211
  - 249
  - 311
  - 590
- A store stocked 150 cans of popcorn for a weekend sale. That weekend, 72 of the cans sold. What percent of the cans of popcorn stocked were sold that weekend?
  - 2%
  - 5%
  - 48%
  - 72%
- $\frac{8}{3}$ , 2.28,  $\frac{10}{12}$ , 0.199  
What number in the list above has the greatest value?
  - $\frac{8}{3}$
  - 2.28
  - $\frac{10}{12}$
  - 0.199
- If Manuel deposits 25% of \$130 into a savings account, what is the amount of his deposit?
  - \$5.20
  - \$25.00
  - \$32.50
  - \$97.50
- What is  $1,582 + 761$ ?
  - 1,119
  - 1,243
  - 1,343
  - 2,343
- Xiaoming is making cookies. Each batch of cookies uses 3 eggs. If Xiaoming has 20 eggs, and assuming he has enough of the other ingredients to make the cookies, what is the greatest number of batches that he can make?
  - 3
  - 6
  - 7
  - 17
- What is the value of  $3.85 + 0.004 + 0.117$ ?
  - 3.9611
  - 3.961
  - 3.971
  - 5.06
- Which of the following is equivalent to  $\frac{8}{25}$ ?
  - 0.02
  - 0.32
  - 0.825
  - 3.125
- What is the remainder when 599 is divided by 9?
  - 0
  - 5
  - 6
  - 9

13. A machine is currently set to a feed rate of 5.921 inches per minute (IPM). The machinist changes this setting to 6.088 IPM. By how much did the machinist increase the feed rate?
- A. 0.167 IPM
  - B. 1.167 IPM
  - C. 1.833 IPM
  - D. 1.967 IPM
14.  $0.075, 0.75\%, \frac{3}{4}$
- Which of the following correctly orders the values above from least to greatest?
- A.  $0.75\%, 0.075, \frac{3}{4}$
  - B.  $0.75\%, \frac{3}{4}, 0.075$
  - C.  $\frac{3}{4}, 0.75\%, 0.075$
  - D.  $0.075, 0.75\%, \frac{3}{4}$
15. What is the value of  $2.84 \times 3.9$ ?
- A. 3.408
  - B. 11.076
  - C. 34.08
  - D. 110.76
16. What is 0.8637 rounded to the nearest hundredth?
- A. 0.86
  - B. 0.863
  - C. 0.864
  - D. 0.87
17. 60% of what number is equal to 30?
- A. 0.5
  - B. 2
  - C. 18
  - D. 50
18. If  $\frac{4}{3} \div \frac{1}{6} = p$ , then the value of  $p$  is between which of the following pairs of numbers?
- A. 3 and 4
  - B. 5 and 6
  - C. 6 and 7
  - D. 7 and 9
19. Which of the following inequalities is true?
- A.  $\frac{3}{4} < \frac{5}{7}$
  - B.  $\frac{2}{3} > \frac{5}{6}$
  - C.  $\frac{5}{8} > \frac{6}{10}$
  - D.  $\frac{4}{5} < \frac{2}{9}$
20. Carole works at a bookstore and a restaurant. In a 28-day period, Carole worked  $\frac{1}{4}$  of the days at the bookstore and did not work  $\frac{1}{14}$  of the days. On the remaining days Carole worked at the restaurant. How many days did Carole work at the restaurant during the 28-day period?
- A. 25
  - B. 19
  - C. 10
  - D. 9

## Answer Key

1. D
2. D
3. A
4. C
5. C
6. A
7. C
8. D
9. B
10. C
11. B
12. B
13. A
14. A
15. B
16. A
17. D
18. D
19. C
20. B

## Rationales

- 1. Choice D is correct.** The number 0.06 is the same as six-hundredths, which when written as a fraction is  $\frac{6}{100}$ . Choice A is incorrect because  $\frac{1}{6}$  is equivalent to one-sixth, or 0.16 $\bar{6}$ . Choice B is incorrect because  $\frac{1}{60}$  is equivalent to one-sixtieth, or 0.016 $\bar{6}$ . Choice C is incorrect because  $\frac{6}{10}$  is equivalent to six-tenths, or 0.6.
- 2. Choice D is correct.** To find the total number of items, multiply the total number of members by the number of items each member will donate. This is represented by  $36 \times 12 = 432$ . Choice A is incorrect because this results from adding instead of multiplying. Choice B is incorrect because a multiplication error was made. This results from not using a placeholder zero or writing the numbers starting in the tens place when multiplying the second digit. Choice C is incorrect because a multiplication error was made. This results from making an error when carrying from the ones digit to the tens digit.
- 3. Choice A is correct.** The expression  $\frac{4}{10} + \frac{3}{100}$  can be rewritten as  $\frac{40}{100} + \frac{3}{100}$ , which is equal to  $\frac{43}{100}$ . Choice B is incorrect because it results from combining the numerators to create a two-digit number and adding the denominators. Choice C is incorrect because it results from adding the numerators and using the denominator of the first number in the sum. Choice D is incorrect because it results from adding the numerators and denominators separately.
- 4. Choice C is correct.** The total number of binders the planner put together for attendees and presenters is  $280 + 31 = 311$ . Adding the ones place ( $0 + 1$ ) results in the digit 1, adding the tens place ( $8 + 3$ ) results in the number 11, which should be recorded as a 1 in the tens place and a 1 carried to the hundreds place, then adding the hundreds place ( $2 + 1$ ) results in the digit 3. Choice A is incorrect. This answer results from not carrying a 1 to the hundreds place after adding the tens place. Choice B is incorrect. This answer is the result of subtracting the presenter binders from the attendee binders. However, the total number of binders will be found through addition, not subtraction. Choice D is incorrect. This answer results from incorrectly adding the numbers.
- 5. Choice C is correct.** Divide the number of cans sold by the number of cans stocked and multiply by 100 to find the percent:  $72 \div 150 \times 100 = 48\%$ . Choice A is incorrect. This is the approximate result of dividing 150 by 72. Choice B is incorrect. This is the approximate result of dividing 72 by 15. Choice D is incorrect. This is the number of cans sold represented as a percent.
- 6. Choice A is correct.** The fraction  $\frac{8}{3}$  is greater than 1 because the numerator is larger than the denominator. This makes it greater than choice C or choice D, which are both less than 1. The fraction  $\frac{8}{3}$  can be converted to a mixed number ( $2\frac{2}{3}$ ) or decimal (approximately 2.66) by dividing 8 by 3. This makes it easier to compare choice A to the other choices. Choices B, C, and D are incorrect because  $\frac{8}{3}$  (or approximately 2.66) is greater than 2.28,  $\frac{10}{12}$ , and 0.199.

- 7. Choice C is correct.** To find 25% of \$130.00, multiply \$130.00 by 0.25, which is \$32.50. Choice A is incorrect because \$5.20 is 4% of \$130, which results from dividing \$130.00 by 25. Choice B is incorrect because \$25.00 is approximately 19% of \$130, which may be the result of misunderstanding 25% to be \$25. Choice D is incorrect because \$97.50 is 75% of \$130, which is not the amount that will go into the savings account.
- 8. Choice D is correct.**  $1,582 + 761 = 2,343$ . Choices A, B, and C are incorrect. Choice A results from adding and carrying from left to right instead of right to left. Choice B is incorrect because no numbers are carried to the next place value. Choice C is incorrect because the 1 from the hundreds place is not carried to the thousands place.
- 9. Choice B is correct.** If Xiaoming has 20 eggs, and each batch of cookies uses 3 eggs, the number of batches can be found by dividing 20 by 3. This does not divide evenly, so the number should be rounded down to 6 because Xiaoming does not have enough eggs to make 7 batches ( $7 \times 3 = 21$ ). Choice A is incorrect because 3 batches would use only 9 eggs ( $3 \times 3$  eggs). This means that Xiaoming would have 11 eggs left, which is enough to make more batches. Choice C is incorrect because 7 batches would use 21 eggs ( $3 \times 7 = 21$ ), but Xiaoming has only 20 eggs. Choice D is incorrect because 17 batches would use 51 eggs ( $17 \times 3 = 51$ ), but Xiaoming has only 20 eggs.
- 10. Choice C is correct.** Using the standard algorithm, the sum of the thousandths places ( $7 + 4$ ) is 11, so a 1 should be recorded in the thousandths place and a 1 carried to the hundredths place. The sum of the hundredths places ( $5 + 0 + 1 + 1$ ) is 7, the sum of the tenths places is 9, and the sum of the ones places is 3. This results in 3.971. Choice A is incorrect. This results from adding from left to right and recording an 11 as the result of adding the thousandths places. Choice B is incorrect. This results from not carrying the 1 from the thousandths place to the hundredths place. Choice D is incorrect. This is the sum of 3.85, 0.04, and 1.17.
- 11. Choice B is correct.** The fraction  $\frac{8}{25}$  can be written as  $\frac{32}{100}$ , which can be interpreted as thirty-two hundredths, or 0.32. Choice A is incorrect. This may be the result of dividing the numerator by 4 instead of multiplying when converting to a common denominator of 100. Choice C is incorrect. This may be the result of trying to form a number using the numerator and the denominator of the fraction. Choice D is incorrect. This is the result of 25 divided by 8.
- 12. Choice B is correct.** The result when 599 is divided by 9 is 66 with a remainder of 5. Multiplying  $9 \times 66 = 594$  and  $599 - 594 = 5$ , which is the remainder. Choice A is incorrect. This may be the result of thinking that 9 divides evenly into 599. Choice C is incorrect. This may be the result of determining that 9 goes into 599 sixty-six times and misinterpreting the meaning of this number. Choice D is incorrect because this is the divisor, not the remainder.
- 13. Choice A is correct.** The amount by which the feed rate increases is the difference between the second feed rate and the first feed rate. This is represented by  $6.088 - 5.921 = 0.167$ . Choices B, C, and D are incorrect and may be the result of errors when subtracting the two numbers given.

- 14. Choice A is correct.** To best compare the numbers, they should be put in the same format. The percent 0.75% can be converted to a decimal by dividing 0.75 by 100, which gives 0.0075. The fraction  $\frac{3}{4}$  can be converted to a decimal by dividing 3 by 4, which gives 0.75. Placing these numbers in order from least to greatest yields 0.0075, 0.075, and 0.75. Choices B, C, and D are incorrect because none of them order the numbers from least to greatest. Choice B is incorrect because  $\frac{3}{4}$  is greater than 0.075. Choice C is incorrect because  $\frac{3}{4}$  is the greatest value, not the least. Choice D is incorrect because 0.75% is less than 0.075.
- 15. Choice B is correct.** Using the standard algorithm to multiply the tenths place of 3.9 by 2.84 results in 2.556 and then multiplying the ones place of 3.9 by 2.84 results in 8.520, since each product must have three places to the right of the decimal. The sum of these two numbers is  $2.556 + 8.520 = 11.076$ . Choice A is incorrect. This results from not using a placeholder zero when multiplying the ones place. Choice C is incorrect. This results from not using a placeholder zero when multiplying the ones place and incorrectly placing the decimal point in the resulting number. Choice D is incorrect. This results from placing the decimal point to match the number of decimal places in 2.84.
- 16. Choice A is correct.** The second digit to the right of the decimal point is in the hundredths place and the third number to the right of the decimal point is in the thousandths place. The number in the hundredths place increases by 1 when the number in the thousandths place is 5 or greater. The number in the hundredths place remains the same if the number in the thousandths place is less than 5. Since the number in the thousandths place is less than 5, the number 0.8637 should be rounded down to 0.860. Choice B is incorrect. The number 0.863 is 0.8637 truncated to the thousandths place instead of rounded to the nearest hundredth. Choice C is incorrect. The number 0.864 is 0.8637 rounded to the nearest thousandths place instead of rounded to the nearest hundredth. Choice D is incorrect. The number 0.87 is 0.8637 rounded up to the nearest hundredth, but since the number in the thousandths place is less than 5, the number should be rounded down.
- 17. Choice D is correct.** Dividing 30 by 60%, which is equivalent to 0.60, gives 50. So 60% of 50 is 30. Choices A and B are incorrect because 60% was not converted into a decimal, and in choice B the division was done in the wrong order. Choice C is incorrect because 30 was multiplied by 0.60 instead of divided.
- 18. Choice D is correct.** The expression  $\frac{4}{3} \div \frac{1}{6} = \frac{4}{3} \times 6 = \frac{24}{3} = 8$ . The number 8 is between 7 and 9. Choices A, B, and C are incorrect. The quotient of the two given fractions is not between any of these pairs of numbers.

**19. Choice C is correct.** The fraction  $\frac{5}{8}$  is greater than  $\frac{6}{10}$ . When using a common denominator, this statement is equivalent to  $\frac{25}{40} > \frac{24}{40}$ . When two fractions have common denominators, the fraction with the larger numerator is the larger number. Choice A is incorrect because  $\frac{3}{4}$  is not less than  $\frac{5}{7}$ . Shown written with a common denominator, the comparison  $\frac{21}{28} < \frac{20}{28}$  is not true. Choice B is incorrect because  $\frac{2}{3}$  is not greater than  $\frac{5}{6}$ . Shown written with a common denominator, the comparison  $\frac{4}{6} > \frac{5}{6}$  is not true. Choice D is incorrect because  $\frac{4}{5}$  is not less than  $\frac{2}{9}$ . Shown written with a common denominator, the comparison  $\frac{36}{45} < \frac{10}{45}$  is not true.

**20. Choice B is correct.** Carole worked  $\frac{1}{4}$  of the 28 days at the bookstore, so she worked 7 days at the bookstore ( $28 \times \frac{1}{4}$ ). She did not work on  $\frac{1}{14}$  of the days, which equals 2 days ( $28 \times \frac{1}{14}$ ). Subtracting these amounts from 28 gives the number of days she worked at the restaurant ( $28 - 7 - 2 = 19$ ). Choice A is incorrect and may be the result of erroneously adding  $\frac{1}{4}$  and  $\frac{1}{14}$  and finding  $\frac{2}{18}$  as the days not worked at the restaurant.  $28 - (28 \times \frac{2}{18}) = 25$ . Choice C is incorrect and may be the result of adding the denominators of the fractions ( $14 + 4$ ) and using this as the number of days Carole did not work at the restaurant.  $28 - 18 = 10$ . Choice D is incorrect because it is the total number of days Carole worked at the bookstore and the days she did not work.

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# Quantitative Reasoning, Algebra, and Statistics

**Sample Questions**

# The College Board

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- Rational numbers
- Ratio and proportional relationships
- Exponents
- Algebraic expressions
- Linear equations
- Linear applications
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- Descriptive statistics
- Geometry concepts

## Sample Questions

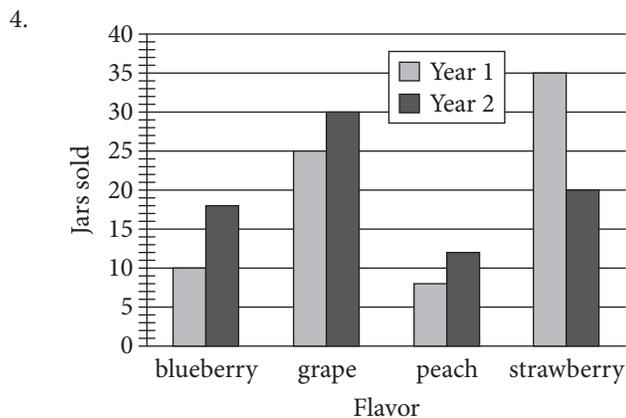
Choose the best answer. If necessary, use the paper you were given.

- Which of the following expressions is 5 times as much as the sum of  $r$  and  $s$ ?
  - $5 \times r + s$
  - $5 + r + s$
  - $r + s \times 5$
  - $(r + s) \times 5$

- What is the solution to the equation

$$\frac{1}{2}x + \frac{3}{2}(x + 1) - \frac{1}{4} = 5?$$

- $\frac{5}{2}$
  - $\frac{13}{8}$
  - $\frac{15}{8}$
  - $\frac{17}{8}$
- What is the number of grams in 500 kilograms? (1 kilogram = 1,000 grams)
    - 0.5
    - 5,000
    - 50,000
    - 500,000



Robert sells four different flavors of jam at an annual farmers market. The graph above shows the number of jars of each type of jam he sold at the market during the first two years. Which flavor of jam had the greatest increase in number of jars sold from Year 1 to Year 2?

- Blueberry
- Grape
- Peach
- Strawberry

- In the  $xy$ -plane, a line crosses the  $y$ -axis at the point  $(0, 3)$  and passes through the point  $(4, 5)$ . Which of the following is an equation of the line?

- $y = \frac{1}{2}x + 3$
- $y = 2x + 3$
- $y = \frac{1}{2}x - 4$
- $y = 2x - 4$

- The amount of money  $M$ , in dollars, Paul earns can be represented by the equation  $M = 12.5h + 11$ , where  $h$  is the number of hours Paul works. Which of the following is the best interpretation of the number 11 in the equation?

- The amount of money, in dollars, Paul earns each hour
- The total amount of money, in dollars, Paul earns after working for  $h$  hours
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Country	Approximate population (millions)
France	65.9
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The table gives the population of the 5 largest countries in the European Union in the year 2014. Which of the following is closest to the mean population of these countries?

- 80.8 million
- 64.3 million
- 63.7 million
- 60.8 million

8. Which of the following fractions is equivalent to  $\frac{-6 - (-9)}{8}$ ?

- A.  $-\frac{3}{8}$
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9. Water runs from a pump at a rate of 1.5 gallons per minute. At this rate, how long would it take to fill a tub with a 150-gallon capacity?

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10. The volume of a right rectangular prism is found by multiplying the length of the base by the width of the base by the height of the prism. A right rectangular prism has a volume of 30 cubic inches. If the height of the prism is 6 inches, what is the area of the base of the prism?

- A. 5 square inches
- B. 24 square inches
- C. 36 square inches
- D. 180 square inches

11. Jacoby followed a recipe that requires 2 cups of water for every 3 cups of flour. If he used 8 cups of flour, how many cups of water did he use?

- A.  $2\frac{2}{3}$
- B. 4
- C.  $5\frac{1}{3}$
- D. 12

12.  $4(x + 5) + 4x + 8$

Which of the following is equivalent to the expression above?

- A.  $4(2x + 7)$
- B.  $8(x + 4)$
- C.  $5x + 17$
- D.  $8x + 13$

13. It took Khalid 90 minutes to complete 40 tasks. Which of the following is an equivalent rate?

- A. 10 tasks in 0.9 minutes
- B. 10 tasks in 2.25 minutes
- C. 10 tasks in 9 minutes
- D. 10 tasks in 22.5 minutes

14.

	Plans to vote "yes" on issue Q	Plans to vote "no" on issue Q	Total
Plans to vote "yes" on issue P	8	12	20
Plans to vote "no" on issue P	14	16	30
Total	22	28	50

The table above shows a survey of 50 registered voters in a city. Each voter was asked whether they planned to vote "yes" or "no" on two different issues. If a voter who plans to vote "yes" on issue P is randomly selected, what is the probability that voter also plans to vote "yes" on issue Q?

- A. 0.16
- B. 0.36
- C. 0.40
- D. 0.67

15. Which of the following values is equivalent to  $5^{-3}$ ?

- A.  $\frac{1}{15}$
- B.  $\frac{1}{125}$
- C. -15
- D. -125

16. Which of the following expressions is equivalent to  $(x^3 \cdot x^2)^5$ ?

- A.  $x^{10}$
- B.  $x^{15}$
- C.  $x^{25}$
- D.  $x^{30}$

17. The elevation at the summit of Mount Whitney is 4,418 meters above sea level. Climbers begin at a trailhead that has an elevation of 2,550 meters above sea level. What is the change in elevation, to the nearest foot, between the trailhead and the summit? (1 foot = 0.3048 meters)
- A. 569 feet  
 B. 5,604 feet  
 C. 6,129 feet  
 D. 14,495 feet

18.  $3x - 2y = 15$   
 $x = 3$

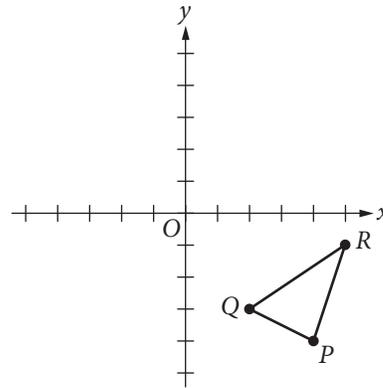
The two lines given by the equations above intersect in the  $xy$ -plane. What is the value of the  $y$ -coordinate of the point of intersection?

- A. -7  
 B. -3  
 C. 3  
 D. 7
19.  $L = \{0, 20, 40, 80, 100\}$   
 $M = \{5, 10, 15, 20, 25\}$   
 $N = \{10, 20, 30, 40, 50\}$

Sets  $L$ ,  $M$ , and  $N$  are shown above. Which of the following sets represents  $L \cup (M \cap N)$  (the union of  $L$  with the intersection of sets  $M$  and  $N$ )?

- A.  $\{0, 5, 10, 15, 20, 25, 30, 40, 50, 80, 100\}$   
 B.  $\{0, 10, 20, 40, 80, 100\}$   
 C.  $\{20, 40\}$   
 D.  $\{20\}$

20.



Triangle  $PQR$  lies in the  $xy$ -plane, and the coordinates of vertex  $Q$  are  $(2, -3)$ . Triangle  $PQR$  is rotated  $180^\circ$  clockwise about the origin and then reflected across the  $y$ -axis to produce triangle  $P'Q'R'$ , where vertex  $Q'$  corresponds to vertex  $Q$  of triangle  $PQR$ . What are the coordinates of  $Q'$ ?

- A.  $(-3, -2)$   
 B.  $(3, -2)$   
 C.  $(-2, 3)$   
 D.  $(2, 3)$

## Answer Key

1. D
2. C
3. D
4. A
5. A
6. D
7. C
8. B
9. B
10. A
11. C
12. A
13. D
14. C
15. B
16. C
17. C
18. B
19. B
20. D

## Rationales

- 1. Choice D is correct.** The order of operations was used properly to write the expression. The sum of  $r$  and  $s$  in parentheses is found first, then multiplication is used to find the number that is 5 times the sum of  $r$  and  $s$ . Choice A is incorrect because this is the sum of  $s$  and 5 times as much as  $r$ . Choice B is incorrect because this is the sum of 5,  $r$ , and  $s$ . Choice C is incorrect because this is the sum of  $r$  and 5 times as much as  $s$ .
- 2. Choice C is correct.** The equation  $\frac{1}{2}x + \frac{3}{2}(x+1) - \frac{1}{4} = 5$  can be rewritten as  $\frac{1}{2}x + \frac{3}{2}x + \frac{3}{2} - \frac{1}{4} = 5$ , which simplifies to  $2x = 5 + \frac{1}{4} - \frac{3}{2} = \frac{15}{4}$ . Therefore,  $x = \frac{15}{4} \div 2 = \frac{15}{8}$ . Choice A is incorrect because if  $x$  were equal to  $\frac{5}{2}$ , then  $\frac{1}{2}x + \frac{3}{2}(x+1) - \frac{1}{4}$  would equal  $\frac{1}{2}\left(\frac{5}{2}\right) + \frac{3}{2}\left(\frac{5}{2} + 1\right) - \frac{1}{4}$ , which is equal to  $\frac{25}{4}$ , not 5. Choice B is incorrect because if  $x$  were equal to  $\frac{13}{8}$ , then  $\frac{1}{2}x + \frac{3}{2}(x+1) - \frac{1}{4}$  would equal  $\frac{1}{2}\left(\frac{13}{8}\right) + \frac{3}{2}\left(\frac{13}{8} + 1\right) - \frac{1}{4}$ , which is equal to  $\frac{9}{2}$ , not 5. Choice D is incorrect because if  $x$  were equal to  $\frac{17}{8}$ , then  $\frac{1}{2}x + \frac{3}{2}(x+1) - \frac{1}{4}$  would equal  $\frac{1}{2}\left(\frac{17}{8}\right) + \frac{3}{2}\left(\frac{17}{8} + 1\right) - \frac{1}{4}$ , which is equal to  $\frac{11}{2}$ , not 5.
- 3. Choice D is correct.** To convert from kilograms to grams, multiply  $500 \text{ kg} \times \frac{1,000 \text{ g}}{1 \text{ kg}}$ , which results in 500,000 grams. Choice A is incorrect because 0.5 is the number of kilograms in 500 grams. Choice B is incorrect because 5,000 grams is equal to 5 kilograms, not 500 kilograms. Choice C is incorrect because 50,000 grams is equal to 50 kilograms, not 500 kilograms.
- 4. Choice A is correct.** The graph shows that he sold 10 jars of blueberry jam the first year and 18 the second year, for an increase of 8 jars. This is the largest increase of any of the flavors. Choice B is incorrect. This is the jam he sold the most of, but it is not the largest increase. Choice C is incorrect. He sold more peach jam the second year, but his sales increased by only 4, which is less than the increase for blueberry. Choice D is incorrect. He sold less strawberry jam the second year, not more.
- 5. Choice A is correct.** An equation in the form  $y = ax + b$  has a slope of  $a$  and a  $y$ -intercept of  $b$ . The line described has a  $y$ -intercept of 3 because it crosses the  $y$ -axis at  $y = 3$  and has a slope of  $\frac{1}{2}$  because the value of  $y$  increases by 1 for every  $x$  increase of 2. Therefore, an equation of the line is  $y = \frac{1}{2}x + 3$ . Choice B is incorrect. The line described does not have a slope of 2. Choice C is incorrect. The line described does not have a  $y$ -intercept of  $-4$ . Choice D is incorrect. The line described does not have a slope of 2 or a  $y$ -intercept of  $-4$ .
- 6. Choice D is correct.** Paul earns \$12.50 per hour, so the number of hours,  $h$ , is multiplied by 12.5. Paul earns \$11 in addition to how much he works per hour, which is why it is added to the product  $12.5h$  and is independent of how many hours Paul works. Choice A is incorrect because it is what 12.5 represents in the equation. Choice B is incorrect because it is what  $M$  stands for in the equation. Choice C is incorrect because substituting 1 into the equation gives  $12.5 + 11 = 23.5$ .

- 7. Choice C is correct.** To find the mean, find the total population of all 5 countries and divide by the total number of countries:  $65.9 + 80.8 + 60.8 + 46.5 + 64.3 = 318.3$  and  $318.3 \div 5 = 63.66$ , which rounds to 63.7. The values in the table are given in millions, so the mean population is about 63.7 million. Choice A is incorrect. It is the maximum of the values given. Choice B is incorrect. It is the median population. Choice D is incorrect. It is the middle value in the table.
- 8. Choice B is correct.** The fraction  $\frac{-6 - (-9)}{8} = \frac{-6 + 9}{8}$ , which is equivalent to  $\frac{3}{8}$ .  
Choices A, C, and D are incorrect because they use incorrect order of operations and/or do not take into account that subtracting  $-9$  is the same as adding 9.
- 9. Choice B is correct.** The time it would take to fill the tub can be found by dividing the number of gallons the tub can hold by the rate the water runs from the pump. This is represented by  $150 \text{ gallons} \div 1.5 \text{ gallons per minute} = 100$ . Choice A is incorrect and may be the result of dividing 150 by 15. Choice C is incorrect and may be the result of multiplying 150 by 1.5. Choice D is incorrect and may be the result of multiplying 150 by 15.
- 10. Choice A is correct.** Volume of a right rectangular prism is equal to the area of the base times the height. Since the height is known, divide the volume by height to find the area of the base. This is represented by  $30 \div 6 = 5$ . Choice B is incorrect because this is the result of subtracting 6 from 30 instead of dividing. Choice C is incorrect because this is the result of adding 6 to 30 instead of dividing. Choice D is incorrect because this is the result of multiplying 6 and 30 instead of dividing.
- 11. Choice C is correct.** The ratio of water to flour is  $\frac{2}{3}$ . Since there were 8 cups of flour used, the expression  $8 \times \frac{2}{3}$  can be used to determine the amount of water used, which is  $5\frac{1}{3}$ . Choice A is incorrect because this is the number of 3-cup "units" of flour that Jacoby used:  $8 \div 3 = 2\frac{2}{3}$ . Choice B is incorrect because this would be the amount of water necessary if 6 cups of flour were used, not 8. Choice D is incorrect because this results from using a ratio of 2 cups of flour to 3 cups of water.
- 12. Choice A is correct.** The expression  $4(x + 5) + 4x + 8$  can be expanded to  $4x + 20 + 4x + 8$ , which is equivalent to  $8x + 28$ . Since 4 can be factored from each term in this expression, it can be rewritten as  $4(2x + 7)$ . Choice B is incorrect because it expands to  $8x + 32$ , which is not equivalent to  $4(x + 5) + 4x + 8$ . Choice C is incorrect because it is equivalent to  $4 + (x + 5) + 4x + 8$  rather than  $4(x + 5) + 4x + 8$ . Choice D is incorrect because the 4 was not distributed through the expression in parentheses properly.
- 13. Choice D is correct.** Ninety minutes to complete 40 tasks is an average rate of 2.25 minutes per task ( $90 \text{ minutes} \div 40 \text{ tasks}$ ). Multiplying this rate by 10 gives the average number of tasks Khalid completed every 10 minutes ( $2.25 \times 10 = 22.5$ ). Choice A is incorrect and is most likely the result of incorrectly dividing 10 by 90. Choice B is incorrect because it is the average number of minutes it took Khalid to complete one task. Choice C is incorrect because it is equivalent to  $90 \div 10$ .
- 14. Choice C is correct.** There are 8 voters who plan to vote "yes" on both issues. There are 20 voters who plan to vote "yes" on issue P. This is represented by  $8 \div 20 = 0.4$ . Choice A is incorrect. This is the probability that a voter plans to vote "yes" on both issues. Choice B is incorrect. This is the probability that a voter plans to vote "yes" on P, given that he or she plans to vote "yes" on Q. Choice D is incorrect. This is the number of voters who plan to vote "yes" on both issues divided by the number of voters who plan to vote "yes" on P and "no" on Q.

**15. Choice B is correct.** The expression  $5^{-3}$  can be rewritten as  $\frac{1}{5^3}$ , which is equal to  $\frac{1}{5 \times 5 \times 5} = \frac{1}{125}$ . Choices A, C, and D are incorrect because they are not equivalent to  $5^{-3}$ . Choice A is the value of  $\frac{1}{5 \times 3}$ , choice C is the value of  $5 \times (-3)$ , and choice D is the value of  $(-5)^3$ .

**16. Choice C is correct.** Using the rules of exponents,  $(x^3 \cdot x^2)^5$  can be rewritten as  $(x^{(3+2)})^5 = (x^5)^5 = x^{5 \times 5} = x^{25}$ . Choices A, B, and D are incorrect and may be the result of not following the proper rules of exponents.

**17. Choice C is correct.** The difference between the elevations is  $4,418 - 2,550 = 1,868$  meters. Since each meter is 0.3048 of a foot, divide the change of elevation in meters by the conversion factor to find the number of feet ( $1,868 \div 0.3048 \approx 6,129$ ). Choice A is incorrect. This is the result of multiplying by the conversion factor instead of dividing. Choice B is incorrect. This is the result of multiplying 1,868 by 3 (perhaps figuring that there are 3 feet in a yard and a meter is similar to a yard). Choice D is incorrect. This is the elevation of the summit in feet.

**18. Choice B is correct.** Substituting 3 for  $x$  in the first equation gives  $3(3) - 2y = 15$ . This simplifies to  $9 - 2y = 15$ . Subtracting 9 from both sides of  $9 - 2y = 15$  gives  $-2y = 6$ . Finally, dividing both sides of  $-2y = 6$  by  $-2$  gives  $y = -3$ . Choice A is incorrect because  $3(3) - 2(-7)$  does not equal 15. Choice C is incorrect because  $3(3) - 2(3)$  does not equal 15. Choice D is incorrect because  $3(3) - 2(7)$  does not equal 15.

**19. Choice B is correct.** The intersection of sets  $M$  and  $N$  is all the numbers that appear in both of the sets, so  $M \cap N = \{10, 20\}$ . The union of this and  $L$  is all the numbers that are in this set or in set  $L$ , therefore  $L \cup (M \cap N) = \{0, 10, 20, 40, 80, 100\}$ . Choice A is incorrect. This is the union of all three sets given. Choice C is incorrect. This is  $L \cap (M \cup N)$ . Choice D is incorrect. This is the intersection of all three sets.

**20. Choice D is correct.** When triangle  $PQR$  is rotated  $180^\circ$  clockwise about the origin  $(0, 0)$ , point  $Q$  is translated from  $(2, -3)$  to  $(-2, 3)$  in the  $xy$ -plane. Then, after the triangle is reflected, or flipped, across the  $y$ -axis, point  $Q$  is translated from  $(-2, 3)$  to  $(2, 3)$ . Choice A is incorrect because it represents the location of point  $Q'$  after only a reflection across the  $y$ -axis. Choice B is incorrect and may be the result of a misunderstanding of a rotation about the origin. Choice C is incorrect because it represents the location of point  $Q'$  after only the rotation.

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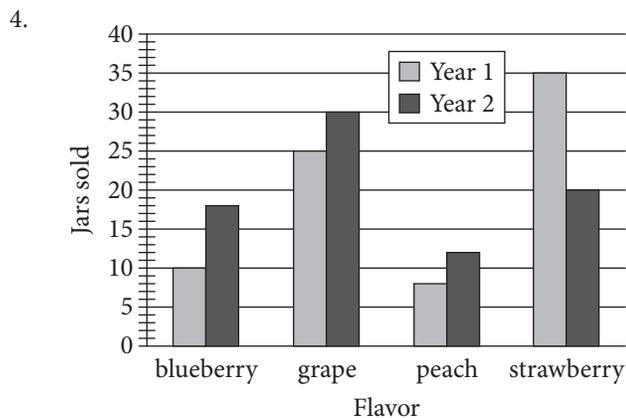
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    - 0.5
    - 5,000
    - 50,000
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12.  $4(x + 5) + 4x + 8$

Which of the following is equivalent to the expression above?

- A.  $4(2x + 7)$
- B.  $8(x + 4)$
- C.  $5x + 17$
- D.  $8x + 13$

13. It took Khalid 90 minutes to complete 40 tasks. Which of the following is an equivalent rate?

- A. 10 tasks in 0.9 minutes
- B. 10 tasks in 2.25 minutes
- C. 10 tasks in 9 minutes
- D. 10 tasks in 22.5 minutes

14.

	Plans to vote "yes" on issue Q	Plans to vote "no" on issue Q	Total
Plans to vote "yes" on issue P	8	12	20
Plans to vote "no" on issue P	14	16	30
Total	22	28	50

The table above shows a survey of 50 registered voters in a city. Each voter was asked whether they planned to vote "yes" or "no" on two different issues. If a voter who plans to vote "yes" on issue P is randomly selected, what is the probability that voter also plans to vote "yes" on issue Q?

- A. 0.16
- B. 0.36
- C. 0.40
- D. 0.67

15. Which of the following values is equivalent to  $5^{-3}$ ?

- A.  $\frac{1}{15}$
- B.  $\frac{1}{125}$
- C. -15
- D. -125

16. Which of the following expressions is equivalent to  $(x^3 \cdot x^2)^5$ ?

- A.  $x^{10}$
- B.  $x^{15}$
- C.  $x^{25}$
- D.  $x^{30}$

17. The elevation at the summit of Mount Whitney is 4,418 meters above sea level. Climbers begin at a trailhead that has an elevation of 2,550 meters above sea level. What is the change in elevation, to the nearest foot, between the trailhead and the summit? (1 foot = 0.3048 meters)

- A. 569 feet
- B. 5,604 feet
- C. 6,129 feet
- D. 14,495 feet

18.  $3x - 2y = 15$   
 $x = 3$

The two lines given by the equations above intersect in the  $xy$ -plane. What is the value of the  $y$ -coordinate of the point of intersection?

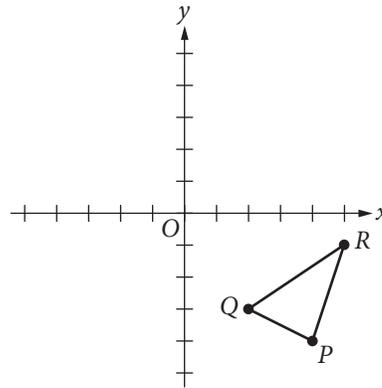
- A. -7
- B. -3
- C. 3
- D. 7

19.  $L = \{0, 20, 40, 80, 100\}$   
 $M = \{5, 10, 15, 20, 25\}$   
 $N = \{10, 20, 30, 40, 50\}$

Sets  $L$ ,  $M$ , and  $N$  are shown above. Which of the following sets represents  $L \cup (M \cap N)$  (the union of  $L$  with the intersection of sets  $M$  and  $N$ )?

- A.  $\{0, 5, 10, 15, 20, 25, 30, 40, 50, 80, 100\}$
- B.  $\{0, 10, 20, 40, 80, 100\}$
- C.  $\{20, 40\}$
- D.  $\{20\}$

20.



Triangle  $PQR$  lies in the  $xy$ -plane, and the coordinates of vertex  $Q$  are  $(2, -3)$ . Triangle  $PQR$  is rotated  $180^\circ$  clockwise about the origin and then reflected across the  $y$ -axis to produce triangle  $P'Q'R'$ , where vertex  $Q'$  corresponds to vertex  $Q$  of triangle  $PQR$ . What are the coordinates of  $Q'$ ?

- A.  $(-3, -2)$
- B.  $(3, -2)$
- C.  $(-2, 3)$
- D.  $(2, 3)$

## Answer Key

1. D
2. C
3. D
4. A
5. A
6. D
7. C
8. B
9. B
10. A
11. C
12. A
13. D
14. C
15. B
16. C
17. C
18. B
19. B
20. D

## Rationales

- 1. Choice D is correct.** The order of operations was used properly to write the expression. The sum of  $r$  and  $s$  in parentheses is found first, then multiplication is used to find the number that is 5 times the sum of  $r$  and  $s$ . Choice A is incorrect because this is the sum of  $s$  and 5 times as much as  $r$ . Choice B is incorrect because this is the sum of 5,  $r$ , and  $s$ . Choice C is incorrect because this is the sum of  $r$  and 5 times as much as  $s$ .
- 2. Choice C is correct.** The equation  $\frac{1}{2}x + \frac{3}{2}(x+1) - \frac{1}{4} = 5$  can be rewritten as  $\frac{1}{2}x + \frac{3}{2}x + \frac{3}{2} - \frac{1}{4} = 5$ , which simplifies to  $2x = 5 + \frac{1}{4} - \frac{3}{2} = \frac{15}{4}$ . Therefore,  $x = \frac{15}{4} \div 2 = \frac{15}{8}$ . Choice A is incorrect because if  $x$  were equal to  $\frac{5}{2}$ , then  $\frac{1}{2}x + \frac{3}{2}(x+1) - \frac{1}{4}$  would equal  $\frac{1}{2}\left(\frac{5}{2}\right) + \frac{3}{2}\left(\frac{5}{2} + 1\right) - \frac{1}{4}$ , which is equal to  $\frac{25}{4}$ , not 5. Choice B is incorrect because if  $x$  were equal to  $\frac{13}{8}$ , then  $\frac{1}{2}x + \frac{3}{2}(x+1) - \frac{1}{4}$  would equal  $\frac{1}{2}\left(\frac{13}{8}\right) + \frac{3}{2}\left(\frac{13}{8} + 1\right) - \frac{1}{4}$ , which is equal to  $\frac{9}{2}$ , not 5. Choice D is incorrect because if  $x$  were equal to  $\frac{17}{8}$ , then  $\frac{1}{2}x + \frac{3}{2}(x+1) - \frac{1}{4}$  would equal  $\frac{1}{2}\left(\frac{17}{8}\right) + \frac{3}{2}\left(\frac{17}{8} + 1\right) - \frac{1}{4}$ , which is equal to  $\frac{11}{2}$ , not 5.
- 3. Choice D is correct.** To convert from kilograms to grams, multiply  $500 \text{ kg} \times \frac{1,000 \text{ g}}{1 \text{ kg}}$ , which results in 500,000 grams. Choice A is incorrect because 0.5 is the number of kilograms in 500 grams. Choice B is incorrect because 5,000 grams is equal to 5 kilograms, not 500 kilograms. Choice C is incorrect because 50,000 grams is equal to 50 kilograms, not 500 kilograms.
- 4. Choice A is correct.** The graph shows that he sold 10 jars of blueberry jam the first year and 18 the second year, for an increase of 8 jars. This is the largest increase of any of the flavors. Choice B is incorrect. This is the jam he sold the most of, but it is not the largest increase. Choice C is incorrect. He sold more peach jam the second year, but his sales increased by only 4, which is less than the increase for blueberry. Choice D is incorrect. He sold less strawberry jam the second year, not more.
- 5. Choice A is correct.** An equation in the form  $y = ax + b$  has a slope of  $a$  and a  $y$ -intercept of  $b$ . The line described has a  $y$ -intercept of 3 because it crosses the  $y$ -axis at  $y = 3$  and has a slope of  $\frac{1}{2}$  because the value of  $y$  increases by 1 for every  $x$  increase of 2. Therefore, an equation of the line is  $y = \frac{1}{2}x + 3$ . Choice B is incorrect. The line described does not have a slope of 2. Choice C is incorrect. The line described does not have a  $y$ -intercept of  $-4$ . Choice D is incorrect. The line described does not have a slope of 2 or a  $y$ -intercept of  $-4$ .
- 6. Choice D is correct.** Paul earns \$12.50 per hour, so the number of hours,  $h$ , is multiplied by 12.5. Paul earns \$11 in addition to how much he works per hour, which is why it is added to the product  $12.5h$  and is independent of how many hours Paul works. Choice A is incorrect because it is what 12.5 represents in the equation. Choice B is incorrect because it is what  $M$  stands for in the equation. Choice C is incorrect because substituting 1 into the equation gives  $12.5 + 11 = 23.5$ .

- 7. Choice C is correct.** To find the mean, find the total population of all 5 countries and divide by the total number of countries:  $65.9 + 80.8 + 60.8 + 46.5 + 64.3 = 318.3$  and  $318.3 \div 5 = 63.66$ , which rounds to 63.7. The values in the table are given in millions, so the mean population is about 63.7 million. Choice A is incorrect. It is the maximum of the values given. Choice B is incorrect. It is the median population. Choice D is incorrect. It is the middle value in the table.
- 8. Choice B is correct.** The fraction  $\frac{-6 - (-9)}{8} = \frac{-6 + 9}{8}$ , which is equivalent to  $\frac{3}{8}$ .  
Choices A, C, and D are incorrect because they use incorrect order of operations and/or do not take into account that subtracting  $-9$  is the same as adding 9.
- 9. Choice B is correct.** The time it would take to fill the tub can be found by dividing the number of gallons the tub can hold by the rate the water runs from the pump. This is represented by  $150 \text{ gallons} \div 1.5 \text{ gallons per minute} = 100$ . Choice A is incorrect and may be the result of dividing 150 by 15. Choice C is incorrect and may be the result of multiplying 150 by 1.5. Choice D is incorrect and may be the result of multiplying 150 by 15.
- 10. Choice A is correct.** Volume of a right rectangular prism is equal to the area of the base times the height. Since the height is known, divide the volume by height to find the area of the base. This is represented by  $30 \div 6 = 5$ . Choice B is incorrect because this is the result of subtracting 6 from 30 instead of dividing. Choice C is incorrect because this is the result of adding 6 to 30 instead of dividing. Choice D is incorrect because this is the result of multiplying 6 and 30 instead of dividing.
- 11. Choice C is correct.** The ratio of water to flour is  $\frac{2}{3}$ . Since there were 8 cups of flour used, the expression  $8 \times \frac{2}{3}$  can be used to determine the amount of water used, which is  $5\frac{1}{3}$ . Choice A is incorrect because this is the number of 3-cup "units" of flour that Jacoby used:  $8 \div 3 = 2\frac{2}{3}$ . Choice B is incorrect because this would be the amount of water necessary if 6 cups of flour were used, not 8. Choice D is incorrect because this results from using a ratio of 2 cups of flour to 3 cups of water.
- 12. Choice A is correct.** The expression  $4(x + 5) + 4x + 8$  can be expanded to  $4x + 20 + 4x + 8$ , which is equivalent to  $8x + 28$ . Since 4 can be factored from each term in this expression, it can be rewritten as  $4(2x + 7)$ . Choice B is incorrect because it expands to  $8x + 32$ , which is not equivalent to  $4(x + 5) + 4x + 8$ . Choice C is incorrect because it is equivalent to  $4 + (x + 5) + 4x + 8$  rather than  $4(x + 5) + 4x + 8$ . Choice D is incorrect because the 4 was not distributed through the expression in parentheses properly.
- 13. Choice D is correct.** Ninety minutes to complete 40 tasks is an average rate of 2.25 minutes per task ( $90 \text{ minutes} \div 40 \text{ tasks}$ ). Multiplying this rate by 10 gives the average number of tasks Khalid completed every 10 minutes ( $2.25 \times 10 = 22.5$ ). Choice A is incorrect and is most likely the result of incorrectly dividing 10 by 90. Choice B is incorrect because it is the average number of minutes it took Khalid to complete one task. Choice C is incorrect because it is equivalent to  $90 \div 10$ .
- 14. Choice C is correct.** There are 8 voters who plan to vote "yes" on both issues. There are 20 voters who plan to vote "yes" on issue P. This is represented by  $8 \div 20 = 0.4$ . Choice A is incorrect. This is the probability that a voter plans to vote "yes" on both issues. Choice B is incorrect. This is the probability that a voter plans to vote "yes" on P, given that he or she plans to vote "yes" on Q. Choice D is incorrect. This is the number of voters who plan to vote "yes" on both issues divided by the number of voters who plan to vote "yes" on P and "no" on Q.

**15. Choice B is correct.** The expression  $5^{-3}$  can be rewritten as  $\frac{1}{5^3}$ , which is equal to  $\frac{1}{5 \times 5 \times 5} = \frac{1}{125}$ . Choices A, C, and D are incorrect because they are not equivalent to  $5^{-3}$ . Choice A is the value of  $\frac{1}{5 \times 3}$ , choice C is the value of  $5 \times (-3)$ , and choice D is the value of  $(-5)^3$ .

**16. Choice C is correct.** Using the rules of exponents,  $(x^3 \cdot x^2)^5$  can be rewritten as  $(x^{(3+2)})^5 = (x^5)^5 = x^{5 \times 5} = x^{25}$ . Choices A, B, and D are incorrect and may be the result of not following the proper rules of exponents.

**17. Choice C is correct.** The difference between the elevations is  $4,418 - 2,550 = 1,868$  meters. Since each meter is 0.3048 of a foot, divide the change of elevation in meters by the conversion factor to find the number of feet ( $1,868 \div 0.3048 \approx 6,129$ ). Choice A is incorrect. This is the result of multiplying by the conversion factor instead of dividing. Choice B is incorrect. This is the result of multiplying 1,868 by 3 (perhaps figuring that there are 3 feet in a yard and a meter is similar to a yard). Choice D is incorrect. This is the elevation of the summit in feet.

**18. Choice B is correct.** Substituting 3 for  $x$  in the first equation gives  $3(3) - 2y = 15$ . This simplifies to  $9 - 2y = 15$ . Subtracting 9 from both sides of  $9 - 2y = 15$  gives  $-2y = 6$ . Finally, dividing both sides of  $-2y = 6$  by  $-2$  gives  $y = -3$ . Choice A is incorrect because  $3(3) - 2(-7)$  does not equal 15. Choice C is incorrect because  $3(3) - 2(3)$  does not equal 15. Choice D is incorrect because  $3(3) - 2(7)$  does not equal 15.

**19. Choice B is correct.** The intersection of sets  $M$  and  $N$  is all the numbers that appear in both of the sets, so  $M \cap N = \{10, 20\}$ . The union of this and  $L$  is all the numbers that are in this set or in set  $L$ , therefore  $L \cup (M \cap N) = \{0, 10, 20, 40, 80, 100\}$ . Choice A is incorrect. This is the union of all three sets given. Choice C is incorrect. This is  $L \cap (M \cup N)$ . Choice D is incorrect. This is the intersection of all three sets.

**20. Choice D is correct.** When triangle  $PQR$  is rotated  $180^\circ$  clockwise about the origin  $(0, 0)$ , point  $Q$  is translated from  $(2, -3)$  to  $(-2, 3)$  in the  $xy$ -plane. Then, after the triangle is reflected, or flipped, across the  $y$ -axis, point  $Q$  is translated from  $(-2, 3)$  to  $(2, 3)$ . Choice A is incorrect because it represents the location of point  $Q'$  after only a reflection across the  $y$ -axis. Choice B is incorrect and may be the result of a misunderstanding of a rotation about the origin. Choice C is incorrect because it represents the location of point  $Q'$  after only the rotation.