

# LEARN

A NETWORK *of* COLLEGE PREP ELEMENTARY SCHOOLS

## Grade 7

### Home Learning Packet

The contents of this packet contain 10 days of activities in paper copy. Students should be complete this packet, along with the lessons through their math/reading *online* programs daily. If students complete the packet before our next round, they should continue using their online math and reading programs for 45 minutes per day per program unless otherwise specified by your campus.

### Chicago Public Library Access

*\*Chicago residents only*

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### North Chicago Public Library Access

*\* Public Library Access for all Users*

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Select: Kid's Corner

Select: TumbleBook Library

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(Student Name)



Day	Date	Title	Genre	Page Started	Page Finished	Total Time

### Weekly At-Home Reading Tally

Day	Number of Minutes
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	
<b>Total Minutes This Week</b>	

Teacher Initials for Meeting Weekly Goal: \_\_\_\_\_

- Your Weekly Goal is **225** minutes. Did you meet your goal? \_\_\_\_\_
- Did you exceed your goal? \_\_\_\_\_  
If yes, by how many minutes? \_\_\_\_\_
- What is your favorite book you read this week? Why was it your favorite?

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Day	Date	Title	Genre	Page Started	Page Finished	Total Time

### Weekly At-Home Reading Tally

Day	Number of Minutes
Monday	
Tuesday	
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Friday	
Saturday	
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- Your Weekly Goal is **225** minutes. Did you meet your goal? \_\_\_\_\_
- Did you exceed your goal? \_\_\_\_\_  
If yes, by how many minutes? \_\_\_\_\_
- What is your favorite book you read this week? Why was it your favorite?

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# Study Island 7th Grade Math - Understanding Probability

## Question 1 .

Which of the following is a true statement?

- A. A probability near 1 indicates an unlikely event.
- B. A probability near 0 indicates a likely event.
- C. A probability near  $\frac{1}{2}$  indicates an unlikely event.
- D. A probability near 1 indicates a likely event.

## Question 2 .

Two experiments are defined below. An event is defined for each of the experiments.

Experiment I: Elena spins the spinner shown in the image.

Event A: The arrow is on the red quarter of the spinner when it stops spinning.



Experiment II: Sam flips a fair coin twice.

Event B: The coin lands on tails the first flip, and the coin lands on heads the second flip.

Which statement about Event A and Event B is true?

- A. It is not possible to determine which event is more likely to occur.
- B. Event A is more likely to occur than Event B.
- C. Event A is less likely to occur than Event B.
- D. Both events are equally likely to occur.

## Question 3 .

The probability of randomly selecting a green marble from a bag of 20 marbles is  $\frac{1}{20}$ . Which of the following describes the likelihood of selecting a green marble?

- A. likely
- B. unlikely
- C. neither unlikely nor likely



Read the biography about a famous dancer. Then answer the questions that follow.

## Martha Graham: Modern Dance Innovator

*by Eva Milner*

1 In the world of dance, Martha Graham is a giant. A true innovator, it was she who led the way into the brave new world of modern dance, leaving behind the constraints of classical ballet. Through her work as a dancer, choreographer, and teacher, Martha has inspired both audiences and generations of dance students. Her institute, the Martha Graham Dance Company, has produced some of the finest dancers in the world today.

2 Martha Graham was born in 1894 in a small town near Pittsburgh, Pennsylvania. Her father was a doctor who specialized in nervous disorders. He was interested in how illnesses and disorders could be revealed through the way a patient's body moved. Martha also believed in the body's ability to express what is inside. She would channel this belief through dance, not medicine, however.

3 Martha was an athletic child, but it wasn't until after seeing the ballet dancer Ruth St. Denis in her teens that she became interested in dance. Martha was so inspired by the performance that she enrolled at an arts college where she studied theater and dance. After graduating in 1916, she joined the Denishawn School, a dance company founded by Ruth St. Denis and Ted Shawn to teach both American dance and world dance.

4 Though Martha began her eight years at Denishawn as a student, it wasn't long before she became a teacher and one of the school's best-known performers. It was during this time that Martha costarred with Ted Shawn in "Xochital," a duet that Ted created specifically for Martha. In this ballet, Martha played the role of an Aztec maiden attacked by an Aztec emperor. Her wildly emotional performance brought her critical acclaim.

5 By 1923, however, Martha felt ready to try new things. She took a job dancing in a vaudeville show in New York City. Here Martha had the opportunity to create her own dances. While there was some room for creativity, she still had to please the audience. Soon she longed for someplace she could take her experimental dance techniques even further. Her search led her to a job teaching at the Eastman School of Music, where she had complete control over her classes and the dance program. This was her chance to truly experiment.

6 Martha felt that classical ballet focused too much on fluidity and grace and ignored deeper, darker emotions and themes. At Eastman, Martha began to use jerky, trembling movements and falls to express ideas and feelings. She developed a fresh, new method of muscle control she called "contraction and release." Through this method, a dancer creates movement by first contracting a muscle and then allowing the movement to flow as the muscle relaxes. This method of muscle control gives the dancer's motions a hard, angular look. This was a big change from the dance style found in classical ballet.

7 Audiences did not always appreciate Martha's style. They were used to the more graceful, flowing motions of ballet dancers, and Martha's choppy, angular style was shocking to them. Many reviewers criticized her for dancing in an "ugly" way. During her first performance in Paris, she and her dancers were booed by the audience.

8 In 1926, Martha formed her own dance company, the now-famous Martha Graham School for Contemporary Dance. She brought in several of her students from the Eastman school and also began



working with Louis Horst, the musical director from her days at Denishawn. Under Horst’s influence, Martha began to use music by modern composers, rather than music from the eighteenth and nineteenth centuries. This was yet another way in which Martha’s work departed from classical ballet.

9 Many of Martha’s dances explored emotional and psychological themes. One example is her solo piece “Lamentation.” In this dance, a grieving figure sits alone on a bench and moves to a mournful piano score. The dancer wears a tube of stretchy, purple fabric. Only the dancer’s head, hands, and feet show. The movements of the dancer’s body within the fabric create a sort of moving sculpture. The dancer represents the raw emotions of grief.

10 Martha was also interested in exploring social issues and political themes. Her dance “Deep Song” was a statement about the Civil War in Spain, and “Chronicle” looked at the menace of fascism and war in Europe. This second dance was created the same year Martha had turned down an invitation to the 1936 Olympic Games being held in Germany. Both the dance itself and her refusal to attend the games expressed Martha’s integrity and desire to highlight important political issues.

11 Martha Graham’s career spanned her entire life. Health issues forced her to quit dancing at the age of 76, but she continued teaching and creating works until her death in 1991. In her lifetime, she created 181 masterpieces of dance, which continue to inspire dancers and audiences alike.

Answer the questions. Mark your answers to questions 1–3 on the Answer Form to the right.

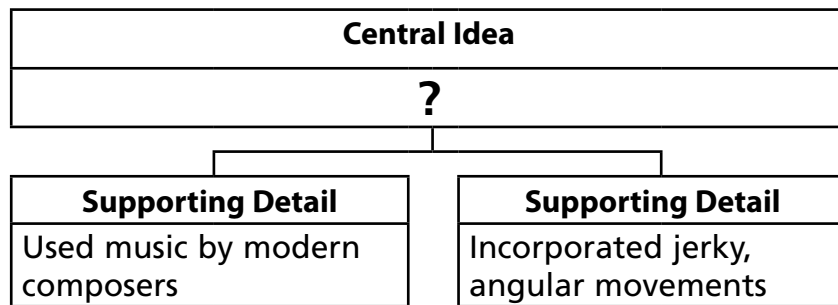
Answer Form

- 1 (A) (B) (C) (D)
- 2 (A) (B) (C) (D)
- 3 (A) (B) (C) (D)

Number Correct

3

1 Study the idea web below.



Which sentence completes the idea web?

- A** Classical ballet focused on flowing, graceful movements.
- B** Martha’s dance style was very different from classical ballet.
- C** Martha was one of the best dancers in America.
- D** Louis Horst was the musical director at Denishawn.





- 2** Which sentence **best** supports the central idea that Martha Graham was an innovator?
- A** “While there was some room for creativity, she still had to please the audience.”
  - B** “Her search led her to a job teaching at the Eastman School of Music, where she had complete control over her classes and the dance program.”
  - C** “She developed a fresh, new method of muscle control she called ‘contraction and release.’”
  - D** “In 1926, Martha formed her own dance company, the now-famous Martha Graham School for Contemporary Dance.”

- 3** Which sentence could be added to **best** support the idea that Graham was an innovator?
- A** By 1927, Graham was working full-time as a dancer and choreographer.
  - B** Graham was the first choreographer to fully collaborate with other modern artists.
  - C** During the Depression in the 1930s, Graham sewed her dance costumes herself.
  - D** Graham was given the title “Dancer of the Century” by *Time* magazine in 1998.

**4** Describe the central idea of paragraphs 9 and 10. Identify at least **two** details the author used to develop that central idea.

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 **Self Check** *Go back and see what you can check off on the Self Check on page 2.*





## Day 2

### Question 4 .

Richard is playing a game where he draws one playing card each out of two stacks of four cards. The image below shows all possible products for the two numbers on the cards.

Product of Two Cards

		Value of Card 2			
		1	2	5	9
Value of Card 1	4	4	8	20	36
	3	3	6	15	27
	1	1	2	5	9
	7	7	14	35	63

Is Richard more likely to draw two cards with a product that is an even number or two cards with a product that is a single digit?

- A. Richard is more likely to draw two cards with a product that is a single digit, because  $\frac{11}{16} > \frac{7}{16}$ .
- B. Richard is more likely to draw two cards with a product that is an even number, because  $\frac{9}{16} > \frac{7}{16}$ .
- C. Richard is more likely to draw two cards with a product that is a single digit, because  $\frac{9}{16} > \frac{7}{16}$ .
- D. Richard is equally likely to draw two cards with a product that is an even number, or a product that is a single number, because  $\frac{9}{16} = \frac{9}{16}$ .

## Day 2

### Question 5 .

**Directions: Drag the tiles to the correct boxes to complete the pairs. Not all tiles will be used.**

Match each event with its likelihood of occurrence.

an event that is certain

an event that is likely

an event that is  
equally likely as unlikely

an event that is impossible

an event that is unlikely



### Question 6 .

Fiona has a box full of art supplies. The probability of randomly picking up a paint brush is 0.5.

Which of the following describes the likelihood of picking a paint brush?

- A. unlikely
- B. neither unlikely nor likely
- C. likely

## Reading

Read the passage. Then answer the questions that follow.

# The Aqua-Lung—Bringing Ocean Exploration to New Depths

by Jess Therell

1 Jacques Cousteau was an adventurer and an explorer with a passion for the ocean. He wanted not only to observe what was beneath the ocean’s surface, but also to protect it by making the public aware of its importance. For this reason, many people also view him as an environmentalist.

2 Cousteau accomplished many things during his distinguished career. He helped author dozens of books about the ocean. He made a number of films, and he led several expeditions aboard his ship, *Calypso*. The explorer even created an underwater camera. Along with an engineer by the name of Emile Gagnan, Cousteau also invented the Aqua-Lung. This was a device that could be used to breathe underwater. Perhaps the most important outcome of the creation of the Aqua-Lung was that it made it possible for more people to explore the ocean’s depths.

### The Aqua-Lung—An Overview of Its Invention

3 The inspiration for the most important part of the Aqua-Lung was a regulator designed by Emile Gagnan. It was first used for car engines. Its chief feature was that it helped supply the exact amount of fuel needed for an engine to run, reducing unnecessary usage and minimizing waste.

4 Cousteau adapted Gagnan’s invention to create the “demand regulator,” the defining component of the Aqua-Lung system. The regulator is the piece that fits into the diver’s mouth. The other essential parts were tanks containing air that were strapped to the diver’s back, as well as a hose to carry air from the tank to the regulator.

5 The design of the Aqua-Lung was completed in the early 1940s. It was available for purchase in France a short time later. Within a decade, the system was being sold in several countries throughout the world.

### What Made the Aqua-Lung Different?

6 The Aqua-Lung differed from most underwater devices that existed at the time in two main ways. First, it allowed divers to stay underwater for a much longer period of time. Before the invention of the Aqua-Lung, divers could only remain underwater for a matter of minutes before their air ran out. With the Aqua-Lung, that time could be extended to an hour or even more.

7 Second, it addressed the issue of air pressure. Pressure rapidly increases as water depth increases. In order to breathe without risk of harm in deep water, any inhaled air must have the same pressure as the surrounding water. The Aqua-Lung regulator automatically adjusted the pressure of the air in the tank to equalize air and water pressure, which made diving safer.

**Go On**

**Do Cousteau and Gagnan Deserve All the Credit?**

8 While Cousteau and Gagnan’s self-contained underwater breathing apparatus (SCUBA) known as the Aqua-Lung was an important new creation, it may not have been the revolutionary advancement many people seem to think. Cousteau and Gagnan built on the work of those who came before by modifying existing technologies and devices. This practice is common among inventors and scientists.

9 Support for the above claim can be found by looking at the history of ocean exploration and the devices that preceded the “invention” of the Aqua-Lung. First, it is important to note that people have always been intrigued by the ocean. Hundreds of years ago, people were already searching for ways to “breathe” underwater so they could stay beneath the surface longer and go deeper. They used hollow reeds as snorkels and wooden barrels as crude air tanks. Although these devices have little in common with the Aqua-Lung and other equipment currently on the market, they show that many people had aspirations and ideas that were similar to Cousteau’s.

10 Second, the Aqua-Lung emerged after very similar devices had already been invented. By far the most notable one was the apparatus that was developed by Captain Yves Le Prieur in 1925. The main difference between it and the Aqua-Lung was air flow. Le Prieur’s SCUBA released air constantly. The Cousteau/Gagnan device released it “on demand”—when the diver inhaled. Certainly, the world-famous Cousteau owed much of the credit for the creation of the Aqua-Lung to the comparatively unknown Le Prieur.

**The Impact of the Aqua-Lung**

11 Although Cousteau and Gagnan built on earlier technology, their invention did open the world of diving to more people. The Aqua-Lung made SCUBA diving simpler, safer, and accessible to the public. In the decades after the device became available, countless individuals adopted underwater diving as a hobby. Aqua-Lung is still a brand name that appears on many types of diving equipment, from regulators to masks to fins.

12 Cousteau’s greatest legacy as a conservationist may have been giving ordinary people the tools needed to view the wonders of the ocean firsthand. Movies and books can certainly show people the beauty of marine life and explain why it needs protection. However, seeing the splendor of the ocean and some of its marvels in person is likely to be much more convincing than anything that appears on a screen or in print.

- 1** The following question has two parts. First, answer part A. Then, answer part B.

**Part A**

What does the word “regulator” mean as it is used in the passage?

- A** a device used to control the pressure of air
- B** a device used to control the flow of liquids
- C** a mechanism in a watch or clock by which its speed is adjusted
- D** a person who makes sure laws or rules are followed

**Part B**

Which of the phrases from the passage **best** helps the reader understand the meaning of “regulator”?

- A** “supply the exact amount of fuel needed for an engine to run”
- B** “the piece that fits into the divers mouth”
- C** “automatically adjusted the pressure of the air in the tank”
- D** “the system was being sold in several countries throughout the world”

- 2** Select **two** central ideas of the passage.

- A** Jacques Cousteau promoted the conservation of our oceans.
- B** Over the centuries, many people have invented devices similar to the Aqua-Lung to assist divers.
- C** The Aqua-Lung differs from Le Prieur’s SCUBA in one important way.
- D** The Aqua-Lung allowed longer, safer dives.
- E** Cousteau and Gagnan might not deserve all the credit for inventing the Aqua-Lung.
- F** Aqua-Lung is still a brand of equipment sold today.
- G** Cousteau and Gagnan built upon previous technologies when creating their Aqua-Lung.

**Go On**







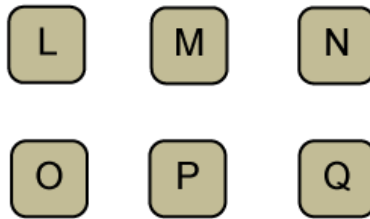
## Day 3

### Question 7 .

Two experiments are defined below. An event is defined for each of the experiments.

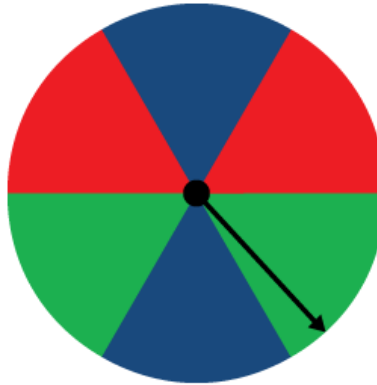
Experiment I: Lisa randomly picks a tile from the set shown in the image.

Event A: Lisa picks an M or a Q.



Experiment II: Josh spins the spinner shown in the image.

Event B: The arrow is on a green or red sector of the spinner when it stops spinning.



Which statement about Event A and Event B is true?

- A. Event A is more likely to occur than Event B.
- B. Event A is less likely to occur than Event B.
- C. It is not possible to determine which event is more likely.
- D. Both events are equally likely to occur.

### Question 8 .

Raymond has a bag full of old coins. The probability of randomly picking up a coin with an eagle on one side is 0.12.

Which of the following describes the likelihood of picking a coin with an eagle on one side?

- A. likely
- B. neither unlikely nor likely
- C. unlikely

Read the passage. Then answer the questions that follow.

# Did Franklin Really Collect Electric Fire from the Sky?

by Neve Reed

1 The story of Benjamin Franklin and his kite experiment is one that captivates people of all ages. It begins when a thunderstorm is on its way. Most of the sensible people in the area are indoors seeking shelter. But not Benjamin Franklin! He's flying a kite with a piece of metal attached to the top. His goal: to prove that lightning is a form of electricity. The story goes that a bolt of lightning soon struck his kite, traveling down the string and charging a metal key near the end. Franklin touched the key, and the "very evident electric spark" he felt proved his theory correct.

2 This experiment is much more exciting than the idea of a scientist writing a paper at a desk or working in the laboratory. However, it's also quite likely that it didn't happen, at least not in the way people imagine. Evidence for this statement comes from numerous sources, including current knowledge and correspondence written by Franklin himself.

## Priestley's Account of Franklin's Experiment

3 Joseph Priestley was the man who recounted the story of Franklin's experiment conducted in 1752. June 15th is often cited as the date. An entire chapter of Priestley's book, *The History and Present State of Electricity with Original Experiments*, is devoted to Franklin's work on the similarities between electricity and lightning. He explains how Franklin planned to use a kite to draw "lightning from the clouds," and gives an account of the actual experiment.

4 There are a few points that should be made about Priestley's account. The first is that it's not clear exactly where his information comes from. Priestley says it was obtained from the "best authority," but then goes on to say that Franklin's son was the only witness present during the experiment. If the information came from Franklin himself, why didn't Priestley say so?

5 The second is that a close reading of the section that describes the actual experiment does not explicitly state that the kite was struck by *a bolt of lightning*. He does mention thunderstorms and drawing lightning from the clouds. But is it possible that "lightning" is being used interchangeably with "electrical charges" here, an assertion that is supported by the thoughts of some modern scientists? Wouldn't the actual dramatic lightning strike have been a focus of Priestley's story? If, that is, it actually took place.

## Franklin's Letter

6 One of the best pieces of evidence we have comes from Franklin himself. In 1752, he wrote a letter to a friend. In it, he describes how he performed the experiment.

7 However, some believe Franklin was merely describing how he would *theoretically* use a kite to prove that electricity and lightning were one in the same. There are several details about the setup that would make actually performing the experiment impractical. These include flying the kite from inside a building, keeping the silk ribbon dry, and not allowing the twine to touch any portion of the door or window.

**Go On**

8 Furthermore, the letter is far from a formal description of Franklin's hypothesis, procedure, results, and conclusions. It would seem likely that Franklin would have presented his findings to the scientific community in an official report, but there is no indication that one exists.

### **The Danger Factor**

9 One of the strongest pieces of evidence against the commonly held belief that Franklin's kite was struck by lightning is that he most likely wouldn't have survived. This was proven through an investigation conducted on a popular television program. The analysis showed that the massive amount of electricity in a bolt of lightning could have traveled down a wet piece of twine and charged a metal key at the end. However, the chances that Franklin could have touched the metal and lived to tell others about it are slim to none. Additionally, it's likely the scientist himself would have known the dangers of touching something that had been struck by lightning based on his previous work with electricity.

### **What Current Scientists Believe**

10 Some believe that the experiment never actually took place at all. A more likely explanation based on the information available, though, is that Franklin *did* fly a kite a short time *before* a thunderstorm. The storm clouds would have contained the same static electricity found in lightning, although in much smaller amounts. These charged clouds could have produced the results described by Priestley in his well-known account. The investigation still probably wasn't the wisest idea on Franklin's part, but it is entirely possible that the scientist could have completed this version of the experiment and escaped unharmed.

- 12** This question has two parts. First, answer part A. Then, answer part B.

**Part A**

Which inference can you draw from “Did Franklin Really Collect Electric Fire from the Sky?”

- A** The smaller amounts of static electricity in clouds before a storm actually endangered Franklin just as much as real lightning would have.
- B** The idea of a death-defying experiment is thrilling, but the reality is that Franklin likely would not have risked his life for science.
- C** Because he focused neither on the difficulties nor dangers of flying a kite indoors, Priestley’s account is weakened.
- D** Franklin was probably more interested in making an exciting scientific story than in harnessing the true power of electricity.

**Part B**

Which of the following sentences from the passage **best** supports your answer to part A?

- A** “The analysis showed that the massive amount of electricity in a bolt of lightning could have traveled down a wet piece of twine and charged a metal key at the end.”
- B** “Additionally, It’s likely the scientist himself would have known the dangers of touching something that had been struck by lightening based on his previous work with electricity.”
- C** “The storm clouds would have contained the same static electricity found in lightning, although in much smaller amounts.”
- D** “A more likely explanation based on the information available, though, is that Franklin did fly a kite a short time before a thunderstorm.”

**Go On**







**Question 9 .****Day 4**

Travis performed an experiment in which he spun a spinner multiple times. The sections of the spinner are red, orange, yellow, green, and blue. The results of his experiment are shown below.

Spinner Result	Frequency
red	10
orange	15
yellow	8
green	20
blue	7

Based on the experiment above, which of the following statements is true?

- A.** It is twice as likely for the next spin to land on green as opposed to red.
- B.** It is less likely for the next spin to land on red as opposed to yellow.
- C.** It is equally likely for the next spin to land on yellow or blue.
- D.** It is more likely for the next spin to land on orange as opposed to green.

**Question 10 .**

The probability of randomly selecting a white flower from a garden that has green, pink, yellow, and white flowers is 6%.

Which of the following describes the likelihood of selecting a white flower?

- A.** likely
- B.** unlikely
- C.** neither unlikely nor likely



For numbers 1–4, use context clues to figure out the meaning of each underlined word.

## Answer Form

1 (A) (B) (C) (D)

2 (A) (B) (C) (D)

3 (A) (B) (C) (D)

4 (A) (B) (C) (D)

Number  
Correct

/ 4

Women’s suffrage organizations faced determined resistance from groups who argued that a woman’s place was in the home, not in the political arena. Plenty of women strongly agreed that they deserved more rights. Yet many of them still deplored the idea of women having a voice in the government.

**1** What does the word resistance mean in the paragraph?

- A** opposition
- B** agreement
- C** questions
- D** approval

**2** Which words provide a clue to the meaning of resistance?

- A** “in the political arena”
- B** “in the home”
- C** “groups who argued”
- D** “in the government”

**3** What does the word deplored mean in the paragraph?

- A** failed to understand
- B** disapproved of
- C** agreed with
- D** investigated

**4** Which words provide a **contrast** clue to the meaning of deplored?

- A** “Plenty of women”
- B** “strongly agreed”
- C** “deserved more rights”
- D** “having a voice”





## Understanding Addition with Negative Integers

- 1 Between the time Iko woke up and lunchtime, the temperature rose by  $11^\circ$ . Then by the time he went to bed, the temperature dropped by  $14^\circ$ .

Write an addition expression for the temperature relative to when Iko woke up.

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Draw a model using integer chips and circle the zero pairs.

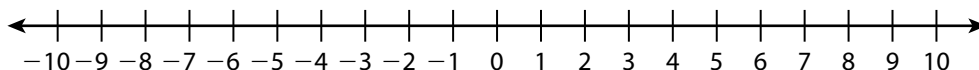
What is the value of the remaining integer chips after the zero pairs are removed?

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What is the net change in the temperature relative to when Iko woke up?

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- 2 Complete the number line model to find  $(-5) + 6$ .



$(-5) + 6 = \underline{\hspace{2cm}}$

How would the number line model be different if you wanted to find  $(-5) + (-6)$ ?

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Read the following historical account. Use the Study Buddy and the Close Reading to guide your reading.



As I read, I'll look for evidence that tells more about each explorer. Then I can make inferences about what each one was like.

## Close Reading

What factors led to Scott's failure? **Underline** details from the text that show the kind of trouble he and his men ran into.

What did Amundsen have going for him that Scott did not? **Circle** details that show Amundsen's advantages.

Genre: Historical Account

## Race to Reach the South Pole: Scott vs. Amundsen *by Alarik Fjelstad*

- 1 In 1911, Englishman Robert Falcon Scott and Norwegian Roald Amundsen raced to reach the South Pole first. Scott, captain of the *Terra Nova*, had nearly made it to the South Pole seven years earlier. He was confident he would succeed this time. Scott publicly announced that he would be using the latest in technology: motor sleds. He recruited scientists, sailors, and even a paying guest who insisted on bringing ponies to the coldest place on Earth.
- 2 Amundsen worried that competitors might try to prevent his attempt to reach the South Pole. He refused to share his dream with anyone, including his shipmates. Amundsen finally told his men where they were going midway through the Atlantic. Though he told them they could quit, they decided to continue the journey with him. They were all veteran Arctic explorers trained to use skis and sled dogs. At this time, Amundsen sent Scott an unsettling telegram telling him he was on his way to Antarctica.
- 3 Both vessels landed in Antarctica in January of 1911, but Amundsen set up his base camp deep inland on ice, while Scott made camp at the shoreline. With expert planning, Amundsen and his crew arrived at the South Pole with sled dogs on December 15, 1911. Meanwhile, Scott's motor sleds failed to work in the minus 40 degree Celsius cold, and the ponies died and were eaten by Scott's crew. Scott arrived at the Pole 33 days after Amundsen and was shocked to find the Norwegian flag. Disillusioned and weak, Scott and his men died of starvation on the return trip, just 11 miles from their nearest supply station.









## Understanding Addition with Negative Integers *continued*

► For problems 3–5, consider the sum  $4 + (-8)$ .

3 Explain how you can use a number line to find the sum.

4 Explain how you can use chips to determine the sum.

5 Does it matter what order you add the numbers in the problem? Explain how chips and number lines support your answer.

6 Write an addition expression that has a value of  $-8$ .



Read this excerpt from a back-to-school speech. Then answer the questions that follow.

## from “The President’s Speech to Students”

*by President Barack Obama*

1 You’re this country’s future. You’re young leaders. And whether we fall behind or race ahead as a nation is going to depend in large part on you. So I want to talk to you a little bit about meeting that responsibility.

2 It starts, obviously, with being the best student that you can be. Now, that doesn’t always mean that you have to have a perfect score on every assignment. It doesn’t mean that you’ve got to get straight As all the time—although that’s not a bad goal to have. It means that you have to stay at it. You have to be determined and you have to persevere. It means you’ve got to work as hard as you know how to work. And it means that you’ve got to take some risks once in a while. You can’t avoid the class that you think might be hard because you’re worried about getting the best grade if that’s a subject that you think you need to prepare you for your future. You’ve got to wonder. You’ve got to question. You’ve got to explore. And every once in a while, you need to color outside of the lines.

3 That’s what school is for: discovering new passions, acquiring new skills, making use of this incredible time that you have to prepare yourself and give yourself the skills that you’re going to need to pursue the kind of careers that you want. And that’s why when you’re still a student you can explore a wide range of possibilities. One hour you can be an artist; the next, an author; the next, a scientist, or a historian, or a carpenter. This is the time where you can try out new interests and test new ideas. And the more you do, the sooner you’ll figure out what makes you come alive, what stirs you, what makes you excited—the career that you want to pursue. . . .

4 So that’s a big part of your responsibility, to test things out. Take risks. Try new things. Work hard. Don’t be embarrassed if you’re not good at something right away. You’re not supposed to be good at everything right away. That’s why you’re in school. The idea, though, is that you keep on expanding your horizons and your sense of possibility. Now is the time for you to do that. And those are also, by the way, the things that will make school more fun.

5 Down the road, those will be the traits that will help you succeed, as well—the traits that will lead you to invent a device that makes an iPad look like a stone tablet. Or what will help you figure out a way to use the sun and the wind to power a city and give us new energy sources that are less polluting. Or maybe you’ll write the next great American novel. . . .

6 But I also want to emphasize this: With all the challenges that our country is facing right now, we don’t just need you for the future; we actually need you now. America needs young people’s passion and their ideas. We need your energy right now. I know you’re up to it because I’ve seen it. Nothing inspires me more than knowing that young people all across the country are already making their marks. They’re not waiting. They’re making a difference now. . . .



7 There are students like Will Kim from Fremont, California, who launched a nonprofit that gives loans to students from low-income schools who want to start their own business. Think about that. So he's giving loans to other students. He set up a not-for-profit. He's raising the money doing what he loves—through dodgeball tournaments and capture-the-flag games. But he's creative. He took initiative. And now he's helping other young people be able to afford the schooling that they need....

8 The point is you don't have to wait to make a difference. Your first obligation is to do well in school. Your first obligation is to make sure that you're preparing yourself for college and career. But you can also start making your mark right now. A lot of times young people may have better ideas than us old people do anyway. We just need those ideas out in the open, in and out of the classroom....

9 When I meet young people like yourselves, when I sit and talk to [a student at this school], I have no doubt that America's best days are still ahead of us, because I know the potential that lies in each of you. Soon enough, you will be the ones leading our businesses and leading our government. You will be the one who are making sure that the next generation gets what they need to succeed. You will be the ones that are charting the course of our unwritten history. And all that starts right now—starts this year....

**1** Which of these statements is **not** supported by the remarks made in President Obama's speech?

- A** Work hard in school and try out new possibilities.
- B** While in school, acquire a variety of skills and interests.
- C** Figure out different ways to become energetic leaders.
- D** Explore a wide range of ideas and career options.

**2** What evidence from the speech **best** shows how students can prepare themselves for the future?

- A** Students need to act responsibly during their time in school.
- B** Students should focus on courses that will help them earn good grades.
- C** Students should realize that they will not excel at everything that they try.
- D** Students need to try new possibilities to discover what excites them.

**Answer Form**

1 (A) (B) (C) (D)

2 (A) (B) (C) (D)

3 (A) (B) (C) (D)

**Number  
Correct**

3





## Understanding Subtraction with Negative Integers

- 1 Mary takes 9 grapes from Rohin and then decides to give 4 back.

Write a subtraction problem to describe how many grapes Rohin has. \_\_\_\_\_

Draw a model for the subtraction problem using integer chips.

How many negative integer chips did you cross out? \_\_\_\_\_

Write the subtraction as addition. \_\_\_\_\_

Draw a model for the addition problem using integer chips.

How do the two integer chip models show that  $-9 - (-4)$  is the same as  $-9 + 4$ ?

What is the change in the number of grapes Rohin has? \_\_\_\_\_

Read the essay. Then answer the questions that follow.

## The Middle of Nowhere

by Brendan Wolfe

1 Every year my dad’s family gathers up its members from the four corners of the known world and invites them home for a reunion. Home for us is a treeless patch of landscape that we have fondly dubbed the Middle of Nowhere. This is where Dad and his sisters grew up, and in addition to a patchwork quilt of corn and soybean fields, the area features an occasional rotten-wood barn and steel silo. Before I was born, my family all moved away, and at that very moment time seems to have stopped in this place. The corn and beans must have been planted by someone, but that’s the only evidence that people still live here.

2 Although we live only a few miles down the Interstate, my dad is the only one who knows for sure how to get back to his old home. Actually, it might be an exaggeration to say that he knows for sure. As often as not he gets us all lost, which is why we call it the Middle of Nowhere in the first place.

3 Anyway, this year’s reunion was a classic example. Dad piled my brother and me into our station wagon, along with folding chairs, badminton gear, and a cooler full of sandwiches, and we weighed anchor for the Middle of Nowhere. Like a captain of the high seas, he welcomed us aboard ship and then gruffly warned us to maintain our discipline lest we be forced to walk the plank.

4 “Can we use a GPS this year, Dad?” I asked. My friends’ parents used them and they never got lost.

5 “I insist that you call me captain,” Dad snapped, before indicating that all electronic directional devices were absolutely *verboten*.

6 “What does ‘verboten’ mean?” I asked.

7 Just then we passed an old gas station. By “old,” I mean ancient—older even than my dad. The gas pumps were candy-apple red and round at the top, and they looked nothing like they’re supposed to. (Where, for instance, are you supposed to swipe your credit card?) The main building, meanwhile, leaned a bit and to my eyes was just barely standing.

8 “This is where we used to go for a soda pop when I was a kid,” Dad said, excitedly pointing at the old wreck.

9 “Why do you say ‘soda pop’?” I asked, but Dad, as usual, ignored me. Instead, he explained that this is where we turned off the Interstate.

10 Soon we were deep amongst the tall rows of corn. At the bottom of a hill, it was impossible to see where you were, but the landscape rolled, like the waves of an ocean. When you crested a wave, you could see for miles.

11 “You see that crossroads?” Dad asked as the out-of-breath Pontiac finally reached the peak of a particularly steep hill. At first it looked no different from any other crossroads, whether here or anywhere else in the world. Then I noticed a slight anomaly: the dirt roads did not meet at quite a right angle. Instead, one of them arrived having had to scoot around one of those rotten-wood barns. This was Danny Flynn’s barn, apparently, and Danny Flynn had been born ornery. When the county wanted to cut its road through Danny Flynn’s property, Danny Flynn folded his arms, spat in the dirt, and said, “No, sir.” No matter how much money the county offered, the old farmer refused to move his barn. He even amended his last will and testament to make sure that no relative of his ever moved it, either.

**Go On**



## Day 7

12 “We only ever called him Danny Flynn,” Dad said. “Never Mr. Flynn. It just seemed more respectful somehow. We always knew he fancied your grandmother, doing odd jobs for her whenever he could. Helping her out—that was the only time the old man ever smiled, I think.”

13 “What do you mean ‘fancied’?” I asked.

14 “We’re close now,” my dad said. Past Danny Flynn’s barn we should turn right at the ball field where Dad played shortstop on Saturdays, then, after a quarter of a mile, the “old homestead,” as Dad called it, should be just over the hill. “Land ho!” Dad always called when he spied it.

15 As the Pontiac puffed along, however, the ball field never showed up. “Where did it go?” I wondered aloud, and then my little brother, who prefers snoozing through car trips, startled awake. “What’s going on?” he said, rubbing his eyes.

16 “The best-laid plans of mice and men often go awry,” Dad mumbled, pulling the car over.

17 When we looked at him quizzically, he admitted that we must be lost. “My memory’s not what it used to be,” he explained.

18 “Then why not use a map?” I snorted in disgust. Those endless stalks of green corn seemed at this point to be mocking me.

19 “You still don’t get it, do you?” Dad said after a long pause. “My memories *are* my map.”

20 I’m not afraid to admit that this, finally, shut me up. After all, when you’re in the Middle of Nowhere, what better than a map that tells stories?

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**22** This question has two parts. First, answer part A. Then, answer part B.

### Part A

What does the word “ornery” mean as it is used in paragraph 11 of the essay?

- A unruly
- B grouchy
- C contrary
- D awkward

### Part B

Which of the phrases from the essay **best** helps the reader understand the meaning of “ornery”?

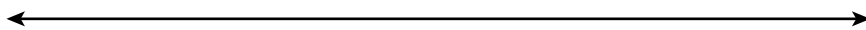
- A “folded his arms”
- B “the old farmer refused to move his barn”
- C “We always knew he fancied your grandma”
- D “that was the only time the old man ever smiled,”





## Understanding Subtraction with Negative Integers *continued*

- 2 Jin is 3 floors above ground level in a hotel. Leila is on a parking level of the hotel that is 4 floors below ground level. How many floors apart are they? Draw a number line model to show  $3 - (-4)$ .



What is  $3 - (-4)$ ? \_\_\_\_\_

What is the meaning of this answer in the context of the problem?

Rewrite  $3 - (-4)$  as an addition problem. \_\_\_\_\_

- 3 The variables  $a$  and  $b$  represent positive numbers. When you find the difference  $a - (-b)$ , do you expect the result to be less than or greater than  $a$ ? What if  $a$  is negative and  $b$  is positive? Explain.



## Independent Practice

For numbers 1–4, read each sentence. Then answer the question.

- 1** When I bring Sam his leash for a walk, his response is effusive.

The prefix *ef-* means “out,” and the root *fus* means “pour.” What is the meaning of effusive as it is used in the sentence?

- A** showing quiet pleasure
- B** showing great enthusiasm
- C** showing boredom and weariness
- D** showing confusion

- 2** Being a quadruped, Sam is often frustrated by my slow pace.

The prefix *quadr-* means “four,” and the root *ped* means “foot.” What is the meaning of quadruped as it is used in the sentence?

- A** a four-foot-long animal
- B** a four-footed animal
- C** a four-speed bicycle
- D** a four-wheeled scooter

## Answer Form

1 (A) (B) (C) (D)

2 (A) (B) (C) (D)

3 (A) (B) (C) (D)

4 (A) (B) (C) (D)

Number  
Correct

/ 4

- 3** When we turn toward home, Sam reacts badly to the brevity of our outing.

The root *brev* means “brief,” and the suffix *-ity* means “degree.” What is the meaning of brevity as it is used in the sentence?

- A** slowness
- B** suddenness
- C** shortness
- D** frequency

- 4** He sits down on the sidewalk and is tenacious about staying there.

The root *ten* means “hold,” and the suffix *-ious* means “characterized by.” What is the meaning of tenacious as it is used in the sentence?

- A** happy and content
- B** full of rage
- C** unable to move
- D** unwilling to give in





# Understanding Multiplication with Negative Integers

► Practice multiplying negative integers.

- 1 Find each product. Then describe any patterns you notice.

$$3 \cdot (-7) = \underline{\hspace{2cm}}$$

$$2 \cdot (-7) = \underline{\hspace{2cm}}$$

$$1 \cdot (-7) = \underline{\hspace{2cm}}$$

$$0 \cdot (-7) = \underline{\hspace{2cm}}$$

$$(-1) \cdot (-7) = \underline{\hspace{2cm}}$$

$$(-2) \cdot (-7) = \underline{\hspace{2cm}}$$

$$(-3) \cdot (-7) = \underline{\hspace{2cm}}$$

- 2 Solve each problem. Explain how you determined the sign of the products.

$$(-3)(9) = \underline{\hspace{2cm}}$$

$$(-8)(-5) = \underline{\hspace{2cm}}$$

$$(-5)(-6) = \underline{\hspace{2cm}}$$

$$(-1)(2)(-6) = \underline{\hspace{2cm}}$$

$$(-2)(-4)(-7) = \underline{\hspace{2cm}}$$

$$(-3)(-4)(-3)(-1) = \underline{\hspace{2cm}}$$



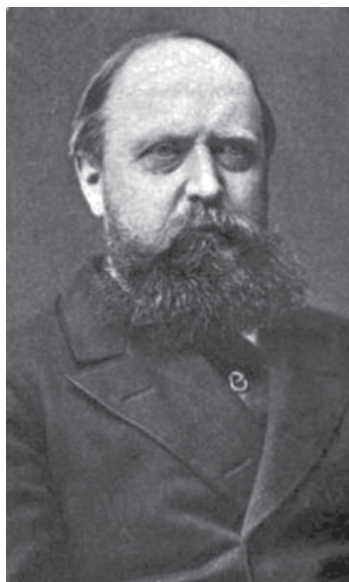
Read the article. Then answer the questions that follow.

## The Bone Wars

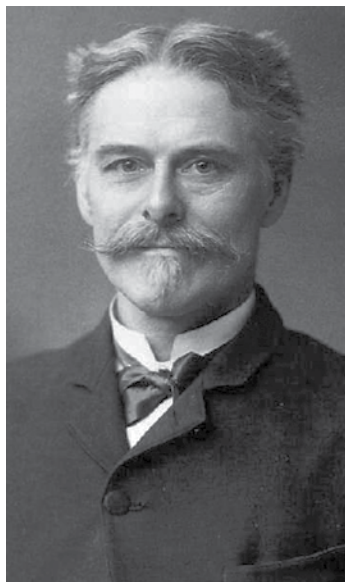
by J. R. Hill

1 If you've spent any time in grocery checkout lines, you've probably seen magazines with pictures of celebrities behaving badly toward each other. You might believe that scientists would be above that sort of thing, but you'd be wrong. About 150 years ago, two scientists started a nasty feud that lasted for decades—and brought to light some of the most spectacular creatures that ever walked the earth.

2 Edward Cope and Othniel Marsh were paleontologists—scientists who study extinct life-forms, including dinosaurs. They met in 1864, when their careers were starting. Paleontology was a young science in the United States, and only a few dinosaurs had been discovered in North America.



Othniel Marsh



Edward Cope

3 Cope and Marsh were friendly at first, but their relationship quickly soured. In 1868, Cope and a team of hired men were digging up dinosaurs in New Jersey. Marsh journeyed there and stayed with Cope for a few weeks. Things seemed to go well, but after Marsh left, Cope learned that his guest and the team foreman had made a deal. In exchange for money, the foreman would send new fossils to Marsh instead of Cope. Marsh had fired the first shot in what scientists would come to call the “Bone Wars.”

4 The war heated up fast. In 1869, Cope wrote an article describing a newly found extinct sea reptile he named *Elasmosaurus*. Cope included a drawing of the creature's skeleton. Another scientist soon pointed out that Cope had mistakenly stuck the beast's skull on its tail. Cope was humiliated, and Marsh crowed about the blunder to anyone who would listen. Shortly after, each man began publishing a string of scientific articles viciously attacking the other's ideas.



5 Cope and Marsh's thirst to outdo each other spilled into their fieldwork. Throughout the 1870s and 1880s, they led and sent teams into lawless regions of the western United States to hunt for dinosaur bones. The teams were told to slow and disrupt each other's work through bribery, stealing, and rock-throwing. The teams even used dynamite to blow up cliffs and bury fossils to keep discoveries from falling into each other's hands. To this day, scientists wonder what fantastic discoveries lay beneath tons of rubble.

6 In addition to sabotage, Cope and Marsh forced their teams to dig up and transport bones quickly. Such speed damaged many specimens, but each man wanted the credit of making the first discoveries of new species. Because they published their findings as quickly as possible, they made many mistakes. Marsh, for example, accidentally stuck the head of one dinosaur (*Camarasaurus*) on to the neck of another dinosaur (*Apatosaurus*) and thought he had discovered a new dinosaur—*Brontosaurus*. Unlike Cope's mistake with *Elasmosaurus*, paleontologists didn't discover and undo Marsh's *Brontosaurus* blunder for nearly 100 years.

7 Until the mid-1880s, only scientists knew about Cope and Marsh's fight. But when Cope ratted out Marsh to the *New York Herald*, their battle spilled out into the world at large. Cope and Marsh assaulted each other through letters published in the newspaper. For a time, they were as famous as any celebrities of today. And even when the public eventually stopped caring, the feud didn't cease. The two men of science took swipes at each other until Cope's death in 1897. Even in death, Cope kept up the attack. He donated his skull to science and asked that his brain size be compared with Marsh's. (Scientists of that time believed that a person with a large brain was smarter than a person with a small one.) For whatever reason, Marsh did not accept Cope's challenge.

8 The Bone Wars have a mixed legacy. On the one hand, American paleontology got a bad reputation from Cope and Marsh's cutthroat behavior. And the mistakes they made in their rush for glory slowed the progress of paleontology for many years. But the Bone Wars also produced a mountain of raw material. Cope and Marsh discovered more than 130 dinosaur species. Their teams dug up so many bones that scientists are still learning new things about them. And many of their most famous discoveries, including *Stegosaurus*, *Allosaurus*, *Diplodocus*, and *Triceratops*, fire the imaginations of children (and more than a few adults) worldwide. Perhaps paleontology would have been worse off had the two men actually gotten along.





Answer the questions. Mark your answers to questions 1–7 on the Answer Form to the right.

**Answer Form**

1A	(A)	(B)	(C)	(D)	4	(A)	(B)	(C)	(D)
1B	(A)	(B)	(C)	(D)	5	(A)	(B)	(C)	(D)
2	(A)	(B)	(C)	(D)	6	(A)	(B)	(C)	(D)
3	(A)	(B)	(C)	(D)	7	(A)	(B)	(C)	(D)

**Number  
Correct****8**

**1** Answer Parts A and B below.

**Part A**

The article says that paleontology was a young science in the United States in the mid-1800s. How knowledgeable about the field were paleontologists of the time?

- A** They were more informed than those in other nations.
- B** They were the greatest experts of the field at the time.
- C** They were not very knowledgeable about their field.
- D** They were just as knowledgeable as any other scientists.

**Part B**

Which detail from the article **best** supports the answer to Part A?

- A** "Another scientist soon pointed out that Cope had mistakenly stuck the beast's skull on its tail."
- B** "Cope was humiliated, and Marsh crowed about the blunder to anyone who would listen."
- C** "Because they published their findings as quickly as possible, they made many mistakes."
- D** "Unlike Cope's mistake with *Elasmosaurus*, paleontologists didn't discover and undo Marsh's *Brontosaurus* blunder for nearly 100 years."

**2** Marsh and Cope had a stormy relationship. Which event was the **most** important influence on this relationship?

- A** Marsh paid Cope's team foreman to send new fossils to him.
- B** Marsh claimed he was the first to discover a mistake by Cope.
- C** Groups of their workers threw rocks at each other.
- D** Cope and Marsh attacked each other in the newspapers.





## Understanding Multiplication with Negative Integers *continued*

- 3 Use the distributive property to show why the product  $(-6)(-3)$  is positive. The first step is done for you.

$$(-6)(-3) + (-6)(3) = (-6)[(-3) + 3]$$

- 4 Mark's work to simplify  $(-3)(-5)(-2)$  is shown. Explain his error and show how to find the correct product.

$$(-3)(-5)(-2) = (-15)(-2) = 30$$

## Lesson 4

## Simple and Compound Sentences



## Introduction

Sentences can be described according to the number and type of clauses in them. Remember that a **clause** is a group of words that contains both a subject and a predicate. An **independent clause** is a clause that can stand alone as its own sentence.

- A **simple sentence** contains one independent clause.

<b>subject</b>	<b>predicate</b>
[My great-grandmother Lucy]	[was born in Oklahoma in 1911.]

- A **compound sentence** is made up of two or more **independent clauses**. Those clauses are joined by a **coordinating conjunction** such as *and, or, so, but, or yet*, with a comma between the first clause and the conjunction.

<b>independent clause 1</b>	<b>independent clause 2</b>
Lucy's sister Rosene was born in 1913,	and her other sister, Rotha, was born in 1915.



## Guided Practice

Write *simple* next to each simple sentence. Write *compound* next to each compound sentence, then circle the conjunction that joins the two clauses.

## Hint

A simple sentence can have a compound subject or compound predicate.

**Compound subject:**

*My brother and I* loved Grandma Lucy.

**Compound predicate:**

She *wrote music and played the piano.*

Both sentences are simple sentences.

- 1 Lucy's mother and father were both schoolteachers. \_\_\_\_\_
- 2 They traveled all over Oklahoma, yet Lucy and her sisters never minded or complained. \_\_\_\_\_
- 3 As a young girl, Lucy was always one of the best students in her class. \_\_\_\_\_
- 4 Schools were segregated in Oklahoma in the early 1900s, so Lucy and her sisters attended schools for black children.  
\_\_\_\_\_
- 5 Lucy's family did not have much money but lived happily.  
\_\_\_\_\_



For numbers 1–3, choose the sentence that answers each question.

- 1** Which of these is a simple sentence?
- A** Great-Grandma Lucy married Richmond Bell in 1937, and they moved to Arizona.
  - B** There was little work in Oklahoma, but in Arizona they got jobs picking cotton.
  - C** The work was difficult, yet Lucy was glad to have a job.
  - D** She and Richmond worked hard and saved their money.

- 2** Which of these is a compound sentence?
- A** Lucy and Richmond heard about work in California.
  - B** They could buy some land and a house in California's Central Valley.
  - C** Folks were struggling to survive in most places, but in California they had jobs.
  - D** Lucy and Richmond packed up, hopped on a train, and went west.

- 3** Which of these is a compound sentence?
- A** The couple found a house in the town of Dos Palos.
  - B** Dos Palos was a small community, but the land was good for farming.
  - C** Lucy and Richmond bought a cow, raised chickens, and grew vegetables.
  - D** Their first child was born in Dos Palos in the summer of 1945.

**Answer Form**

- 1 (A) (B) (C) (D)  
2 (A) (B) (C) (D)  
3 (A) (B) (C) (D)  
4 (A) (B) (C) (D)  
5 (A) (B) (C) (D)

**Number Correct**

/ 5

For numbers 4 and 5, choose the answer that correctly combines each pair of simple sentences into a compound sentence.

- 4** World War II began. Richmond joined the army.
- A** World War II began but Richmond joined the army.
  - B** World War II began, Richmond joined the army.
  - C** World War II began, and, Richmond joined the army.
  - D** World War II began, and Richmond joined the army.
- 5** With the men away, many jobs were open to women. Lucy became a librarian.
- A** With the men away, many jobs were open to women, so Lucy became a librarian.
  - B** With the men away, many jobs were open to women, Lucy became a librarian.
  - C** With the men away, many jobs were open to women, so, Lucy became a librarian.
  - D** With the men away, many jobs were open to women so, Lucy became a librarian.







