

1 Chapter Test

Check It Out
Test Practice
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Find the absolute value.

1. $|-9|$

2. $|64|$

3. $|-22|$

Copy and complete the statement using $<$, $>$, or $=$.

4. 4 $|-8|$

5. $|-7|$ -12

6. -7 $|3|$

Evaluate the expression.

7. $-6 + (-11)$

8. $2 - (-9)$

9. $-9 \cdot 2$

10. $-72 \div (-3)$

Evaluate the expression when $x = 5$, $y = -3$, and $z = -2$.

11. $\frac{y+z}{x}$

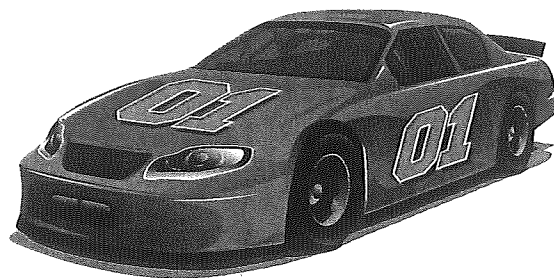
12. $\frac{x-5z}{y}$

Find the mean of the integers.

13. $11, -7, -14, 10, -5$

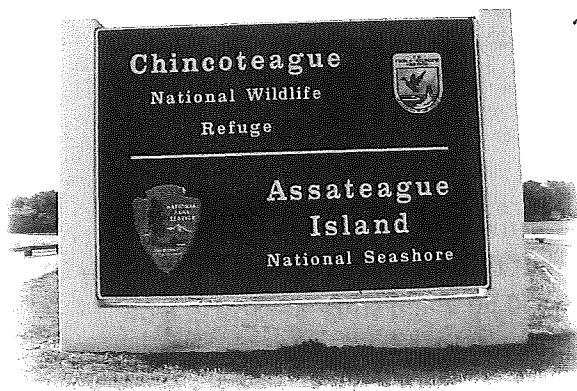
14. $-32, -41, -39, -27, -33, -44$

15. **NASCAR** A driver receives -25 points for each rule violation. What integer represents the change in points after 4 rule violations?



16. **GOLF** The table shows your scores, relative to *par*, for nine holes of golf. What is your total score for the nine holes?

Hole	1	2	3	4	5	6	7	8	9	Total
Score	+1	-2	-1	0	-1	+3	-1	-3	+1	?



17. **VISITORS** In a recent 10-year period, the change in the number of visitors to U.S. national parks was about $-11,150,000$ visitors.

- What was the mean yearly change in the number of visitors?
- During the seventh year, the change in the number of visitors was about $10,800,000$. Explain how the change for the 10-year period can be negative.

1 Standards Assessment

1. A football team gains 2 yards on the first play, loses 5 yards on the second play, loses 3 yards on the third play, and gains 4 yards on the fourth play. What is the team's overall gain or loss for all four plays? (7.NS.1b)

A. a gain of 14 yards C. a loss of 2 yards
B. a gain of 2 yards D. a loss of 14 yards

2. Which expression is *not* equal to the number 0? (7.NS.1a)

F. $5 - 5$ H. $6 - (-6)$
G. $-7 + 7$ I. $-8 - (-8)$

3. What is the value of the expression below when $a = -2$, $b = 3$, and $c = -5$? (7.NS.3)

$$|a^2 - 2ac + 5b|$$

A. -9 C. 1
B. -1 D. 9

4. What is the value of the expression below? (7.NS.1c)



$$17 - (-8)$$

5. Sam was evaluating an expression in the box below.

$$\begin{aligned} (-2)^3 \cdot 3 - (-5) &= 8 \cdot 3 - (-5) \\ &= 24 + 5 \\ &= 29 \end{aligned}$$

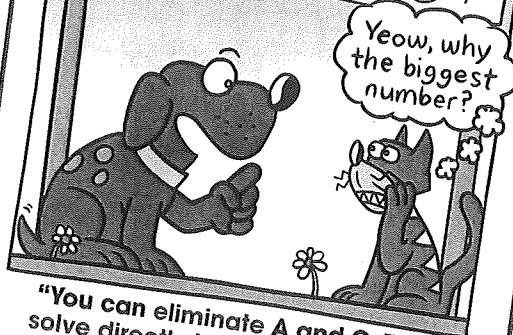
What should Sam do to correct the error that he made? (7.NS.3)

- F. Subtract 5 from 24 instead of adding.
G. Rewrite $(-2)^3$ as -8 .
H. Subtract -5 from 3 before multiplying by $(-2)^3$.
I. Multiply -2 by 3 before raising the quantity to the third power.

Test-Taking Strategy Solve Directly or Eliminate Choices

You ripped out $(-1)^2 + (-2)(-3)$ whiskers. How many did you rip out?

(A) -5 (B) 5 (C) -7 (D) 7



"You can eliminate A and C. Then, solve directly to determine that the correct answer is D."

- $$\frac{x - 2y}{-z}$$

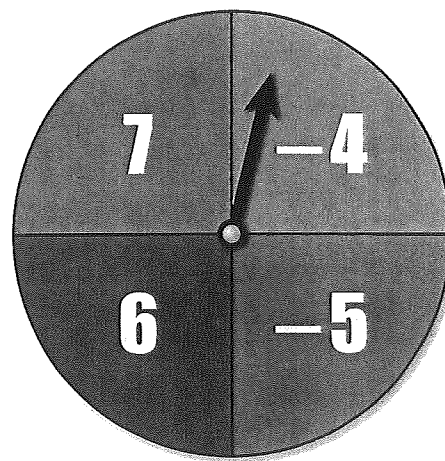
C. 1

D. 7

-

8. You are playing a game using the spinner shown. You start with a score of 0 and spin the spinner four times. When you spin blue or green, you add the number to your score. When you spin red or orange, you subtract the number from your score. Which sequence of colors represents the greatest score? (7.NS.3)

l. blue, red, blue, red



- D.** $(-2)(-4)$

- $$I_2 = -x - y$$

11. What is the value of the expression below? (7.NS.3)

$$-5 \cdot (-4)^2 - (-3)$$

- A. -83
B. -77
C. 77
D. 83

12. Which property does the equation below represent? (7.NS.1d)

$$-80 + 30 + (-30) = -80 + [30 + (-30)]$$

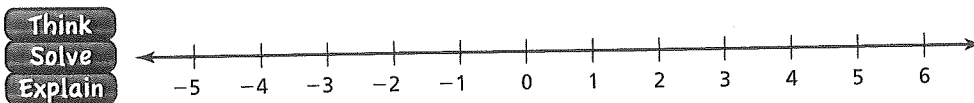
- F. Commutative Property of Addition
G. Associative Property of Addition
H. Additive Inverse Property
I. Addition Property of Zero

13. What is the mean of the data set in the box below? (7.NS.3)

$$-8, -6, -2, 0, -6, -8, 4, -7, -8, 1$$

- A. -8
B. -7
C. -6
D. -4

14. Consider the number line shown below. (7.NS.1b, 7.NS.1c)



Part A Use the number line to explain how to add -2 and -3 .

Part B Use the number line to explain how to subtract 5 from 2.

15. What is the value of the expression below? (7.NS.3)

$$\frac{-3 - 2^2}{-1}$$

- F. -25
G. -1
H. 7
I. 25

2 Chapter Test

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Write the rational number as a decimal.

1. $\frac{7}{40}$

2. $-\frac{1}{9}$

3. $-\frac{21}{16}$

4. $\frac{36}{5}$

Write the decimal as a fraction or a mixed number in simplest form.

5. -0.122

6. 0.33

7. -4.45

8. -7.09

Add or subtract. Write fractions in simplest form.

9. $-\frac{4}{9} + \left(-\frac{23}{18}\right)$

10. $\frac{17}{12} - \left(-\frac{1}{8}\right)$

11. $9.2 + (-2.8)$

12. $2.86 - 12.1$

Multiply or divide. Write fractions in simplest form.

13. $3\frac{9}{10} \times \left(-\frac{8}{3}\right)$

14. $-1\frac{5}{6} \div 4\frac{1}{6}$

15. $-4.4 \times (-6.02)$

16. $-5 \div 1.5$

17. $-\frac{3}{5} \cdot \left(2\frac{2}{7}\right) \cdot \left(-3\frac{3}{4}\right)$

18. $-6 \cdot (-0.05) \cdot (-0.4)$

19. **ALMONDS** How many 2.25-pound containers can you make with 24.75 pounds of almonds?

20. **FISH** The elevation of a fish is -27 feet.

- The fish decreases its elevation by 32 feet, and then increases its elevation by 14 feet. What is its new elevation?
- Your elevation is $\frac{2}{5}$ of the fish's new elevation. What is your elevation?

21. **RAINFALL** The table shows the rainfall (in inches) for three months compared to the yearly average. Is the total rainfall for the three-month period greater than or less than the yearly average? Explain.

November	December	January
-0.86	2.56	-1.24



22. **BANK ACCOUNTS** Bank Account A has \$750.92, and Bank Account B has \$675.44. Account A changes by $-\$216.38$, and Account B changes by $-\$168.49$. Which account has the greater balance? Explain.

2 Standards Assessment

1. When José and Sean were each 5 years old, José was $1\frac{1}{2}$ inches taller than Sean. José grew at an average rate of $2\frac{3}{4}$ inches per year from the time that he was 5 years old until the time he was 13 years old. José was 63 inches tall when he was 13 years old. How tall was Sean when he was 5 years old? (7.NS.3)

- A. $39\frac{1}{2}$ in. C. $44\frac{3}{4}$ in.
B. $42\frac{1}{2}$ in. D. $47\frac{3}{4}$ in.

2. Which expression represents a positive integer? (7.NS.2a)

- F. -6^2 H. $(-5)^2$
G. $(-3)^3$ I. -2^3

3. What is the missing number in the sequence below? (7.NS.2a)



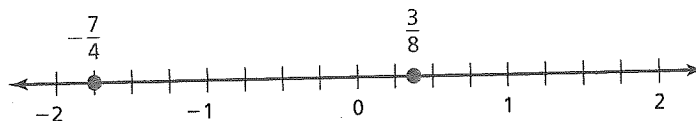
$$\frac{9}{16}, -\frac{9}{8}, \frac{9}{4}, -\frac{9}{2}, 9, \underline{\hspace{1cm}}$$

4. What is the value of the expression below? (7.NS.1c)

$$|-2 - (-2.5)|$$

- A. -4.5 C. 0.5
B. -0.5 D. 4.5

5. What is the distance between the two numbers on the number line? (7.NS.1c)

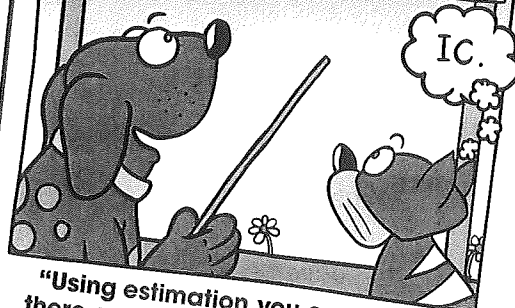


- F. $-2\frac{1}{8}$ H. $1\frac{3}{8}$
G. $-1\frac{3}{8}$ I. $2\frac{1}{8}$

Test-Taking Strategy Estimate the Answer

One-fourth of the 36 cats in our town are tabbies. How many are not tabbies?

- (A) 9 (B) 18 (C) 27 (D) 36



"Using estimation you can see that there are about 10 tabbies. So about 30 are not tabbies."

6. Sandra was evaluating an expression in the box below.

$$\begin{aligned}
 -4\frac{3}{4} \div 2\frac{1}{5} &= -\frac{19}{4} \div \frac{11}{5} \\
 &= \frac{-4}{19} \cdot \frac{5}{11} \\
 &= \frac{-4 \cdot 5}{19 \cdot 11} \\
 &= \frac{-20}{209}
 \end{aligned}$$

What should Sandra do to correct the error that she made? (7.NS.3)

- A. Rewrite $-\frac{19}{4}$ as $-\frac{4}{19}$ and multiply by $\frac{11}{5}$.
- B. Rewrite $\frac{11}{5}$ as $\frac{5}{11}$ and multiply by $-\frac{19}{4}$.
- C. Rewrite $\frac{11}{5}$ as $-\frac{5}{11}$ and multiply by $-\frac{19}{4}$.
- D. Rewrite $-4\frac{3}{4}$ as $-\frac{13}{4}$ and multiply by $\frac{5}{11}$.
7. What is the value of the expression below when $q = -2$, $r = -12$, and $s = 8$? (7.NS.3)

$$\frac{-q^2 - r}{s}$$

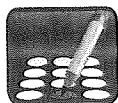
F. -2

H. 1

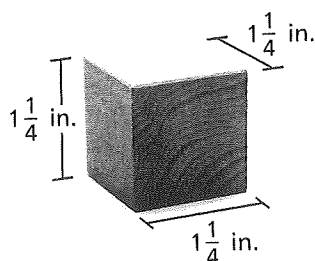
G. -1

I. 2

8. You are stacking wooden blocks with the dimensions shown below.



How many blocks do you need to stack to build a block tower that is $7\frac{1}{2}$ inches tall? (7.NS.3)



9. What is the area of a triangle with a base length of $2\frac{1}{2}$ inches and a height of 2 inches? (7.NS.2c)

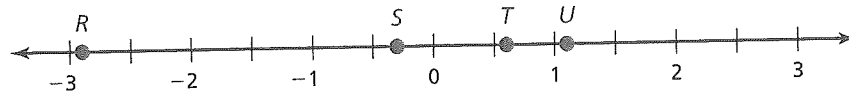
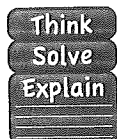
A. $2\frac{1}{4}$ in.² C. $4\frac{1}{2}$ in.²
B. $2\frac{1}{2}$ in.² D. 5 in.²

10. What is the value of the expression below? (7.NS.3)

$$\frac{-4^2 - (-2)^3}{4}$$

F. -6 H. 2
G. -2 I. 6

11. Four points are graphed on the number line below. (7.NS.3)



- Part A* Choose the two points whose values have the greatest sum. Approximate this sum. Explain your reasoning.
- Part B* Choose the two points whose values have the greatest difference. Approximate this difference. Explain your reasoning.
- Part C* Choose the two points whose values have the greatest product. Approximate this product. Explain your reasoning.
- Part D* Choose the two points whose values have the greatest quotient. Approximate this quotient. Explain your reasoning.

12. What number belongs in the box to make the equation true? (7.NS.3)

$$\boxed{} + 0.8 = -1.2$$

A. -1 C. 0.2
B. -0.2 D. 1

3 Chapter Test

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Simplify the expression.

1. $8x - 5 + 2x$

3. $3(5 - 2n) + 9n$

2. $2.5w - 3y + 4w$

4. $\frac{5}{7}x + 15 - \frac{9}{14}x - 9$

Find the sum or difference.

5. $(3j + 11) + (8j - 7)$

7. $(2r - 13) - (-6r + 4)$

6. $\frac{3}{4}(8p + 12) + \frac{3}{8}(16p - 8)$

8. $-2.5(2s - 5) - 3(4.5s - 5.2)$

Factor out the coefficient of the variable.

9. $3n - 24$

10. $\frac{1}{2}q + \frac{5}{2}$

Solve the equation. Check your solution.

11. $7x = -3$

12. $2(x + 1) = -2$

13. $\frac{2}{9}g = -8$

14. $z + 14.5 = 5.4$

15. $-14 = 6c$

16. $\frac{2}{7}k - \frac{3}{8} = -\frac{19}{8}$

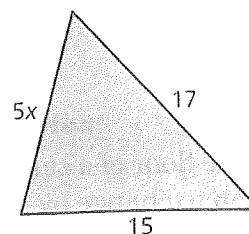
17. **HAIR SALON** Write an expression in simplest form that represents the income from w women and m men getting a haircut and a shampoo.

	Women	Men
Haircut	\$45	\$15
Shampoo	\$12	\$7

18. **RECORD** A runner is compared with the world record holder during a race. A negative number means the runner is ahead of the time of the world record holder. A positive number means that the runner is behind the time of the world record holder. The table shows the time difference between the runner and the world record holder for each lap. What time difference does the runner need for the fourth lap to match the world record?

Lap	Time Difference
1	-1.23
2	0.45
3	0.18
4	?

19. **GYMNASTICS** You lose 0.3 point for stepping out of bounds during a floor routine. Your final score is 9.124. Write and solve an equation to find your score before the penalty.
20. **PERIMETER** The perimeter of the triangle is 45. Find the value of x .



3 Standards Assessment

1. Which equation represents the word sentence shown below? (7.EE.4a)

The quotient of a number b and 0.3 equals negative 10.

- A. $0.3b = 10$ C. $\frac{0.3}{b} = -10$
 B. $\frac{b}{0.3} = -10$ D. $\frac{b}{0.3} = 10$

2. What is the value of the expression below when $c = 0$ and $d = -6$? (7.NS.2c)



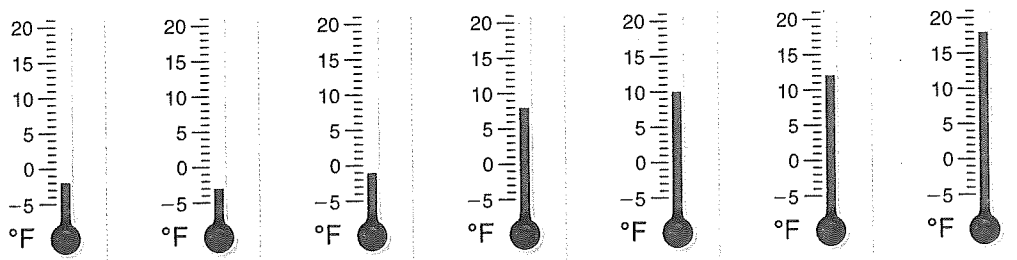
$$\frac{cd - d^2}{4}$$

3. What is the value of the expression below? (7.NS.1c)

$$-38 - (-14)$$

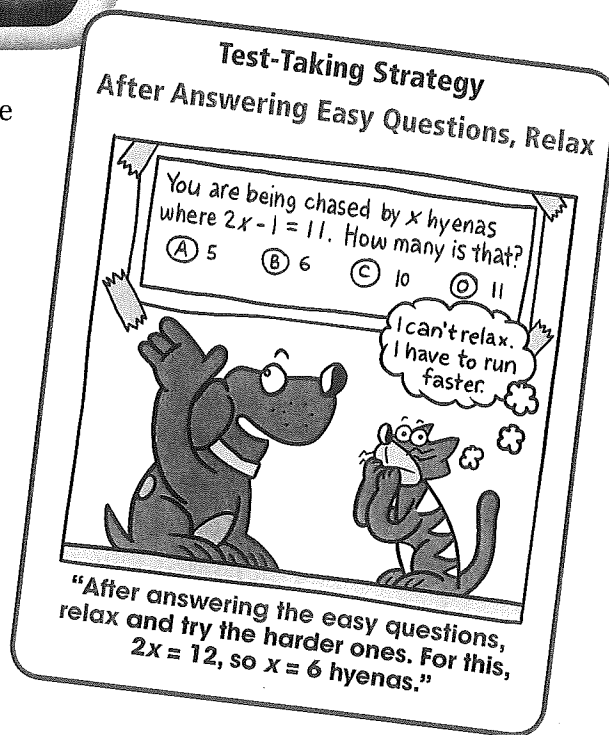
- F. -52 H. 24
 G. -24 I. 52

4. The daily low temperatures last week are shown below.



What is the mean low temperature of last week? (7.NS.3)

- A. -2°F C. 8°F
 B. 6°F D. 10°F



5. Which equation is equivalent to the equation shown below? (7.EE.4a)

$$-\frac{3}{4}x + \frac{1}{8} = -\frac{3}{8}$$

F. $-\frac{3}{4}x = -\frac{3}{8} - \frac{1}{8}$

H. $x + \frac{1}{8} = -\frac{3}{8} \cdot \left(-\frac{4}{3}\right)$

G. $-\frac{3}{4}x = -\frac{3}{8} + \frac{1}{8}$

I. $x + \frac{1}{8} = -\frac{3}{8} \cdot \left(-\frac{3}{4}\right)$

6. What is the value of the expression below? (7.NS.2c)



$$-0.28 \div -0.07$$

7. Karina was solving the equation in the box below.

$$-96 = -6(x - 15)$$

$$-96 = -6x - 90$$

$$-96 + 90 = -6x - 90 + 90$$

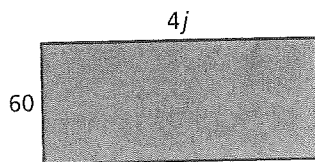
$$-6 = -6x$$

$$\frac{-6}{-6} = \frac{-6x}{-6}$$

$$1 = x$$

What should Karina do to correct the error that she made? (7.EE.4a)

- A. First add 6 to both sides of the equation.
- B. First subtract x from both sides of the equation.
- C. Distribute the -6 to get $6x - 90$.
- D. Distribute the -6 to get $-6x + 90$.
8. The perimeter of the rectangle is 400 inches. What is the value of j ?
(All measurements are in inches.) (7.EE.4a)



F. 35

H. 140

G. 85

I. 200

9. Jacob was evaluating the expression below when $x = -2$ and $y = 4$.

$$3 + x^2 \div y$$

His work is in the box below.

$$\begin{aligned} 3 + x^2 \div y &= 3 + (-2^2) \div 4 \\ &= 3 - 4 \div 4 \\ &= 3 - 1 \\ &= 3 \end{aligned}$$

What should Jacob do to correct the error that he made? (7.NS.3)

- A. Divide 3 by 4 before subtracting.
 - B. Square -2 , then divide.
 - C. Square then divide.
 - D. Subtract 4 from 3 before dividing.
10. Which number is equivalent to the expression shown below? (7.NS.3)

$$-2\frac{1}{4} - \left(-8\frac{3}{8}\right)$$

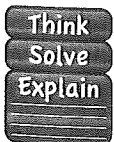
F. $-10\frac{5}{8}$

H. $6\frac{1}{8}$

G. $-10\frac{1}{3}$

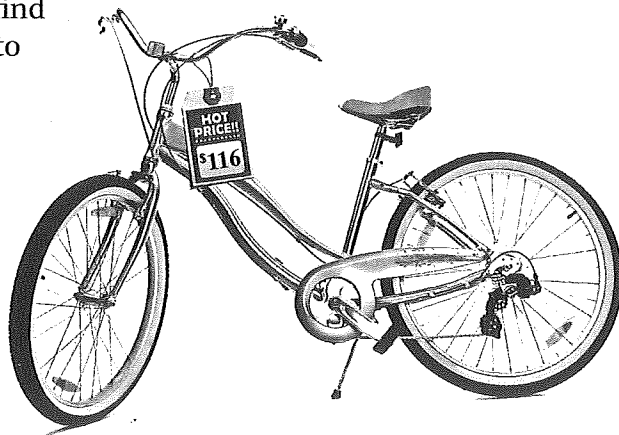
I. $6\frac{1}{2}$

11. You want to buy the bicycle. You already have \$43.50 saved and plan to save an additional \$7.25 every week. (7.EE.4a)



Part A Write and solve an equation to find the number of weeks you need to save before you can purchase the bicycle.

Part B How much sooner could you purchase the bicycle if you had a coupon for \$20 off and saved \$8.75 every week? Explain your reasoning.



4 Chapter Test

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Write the word sentence as an inequality.

1. A number k plus 19.5 is less than or equal to 40.
2. A number q multiplied by $\frac{1}{4}$ is greater than -16 .

Tell whether the given value is a solution of the inequality.

3. $n - 3 \leq 4; n = 7$

4. $-\frac{3}{7}m < 1; m = -7$

5. $-4c \geq 7; c = -2$

6. $-2.4m > -6.8; m = -3$

Solve the inequality. Graph the solution.

7. $w + 4 \leq 3$

8. $x - 4 > -6$

9. $-\frac{2}{9} + y \leq \frac{5}{9}$

10. $-6z \geq 36$

11. $-5.2 \geq \frac{p}{4}$

12. $4k - 8 \geq 20$

13. $\frac{4}{7} - b \geq -\frac{1}{7}$

14. $-0.6 > -0.3(d + 6)$

15. **GUMBALLS** You have \$2.50. Each gumball in a gumball machine costs \$0.25. Write and solve an inequality that represents the number of gumballs you can buy.

16. **PARTY** You can spend no more than \$100 on a party you are hosting. The cost per guest is \$8.
- a. Write and solve an inequality that represents the number of guests you can invite to the party.
 - b. What is the greatest number of guests that you can invite to the party? Explain your reasoning.



17. **BASEBALL CARDS** You have \$30 to buy baseball cards. Each pack of cards costs \$5. Write and solve an inequality that represents the number of packs of baseball cards you can buy and still have at least \$10 left.

4 Standards Assessment

1. What is the value of the expression below when $x = -5$, $y = 3$, and $z = -1$? (7.NS.3)

$$\frac{x^2 - 3y}{z}$$

- A. -34
B. -16
C. 16
D. 34

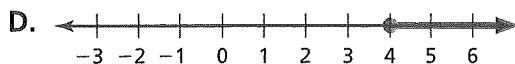
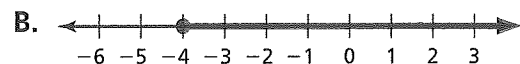
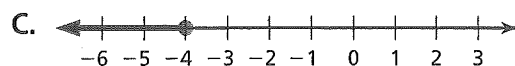
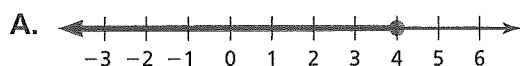
2. What is the value of the expression below? (7.NS.2a)

$$-\frac{3}{8} \cdot \left(\frac{2}{5}\right)$$

- F. $-\frac{20}{3}$
G. $-\frac{16}{15}$
H. $-\frac{15}{16}$
I. $-\frac{3}{20}$

3. Which graph represents the inequality below? (7.EE.4b)

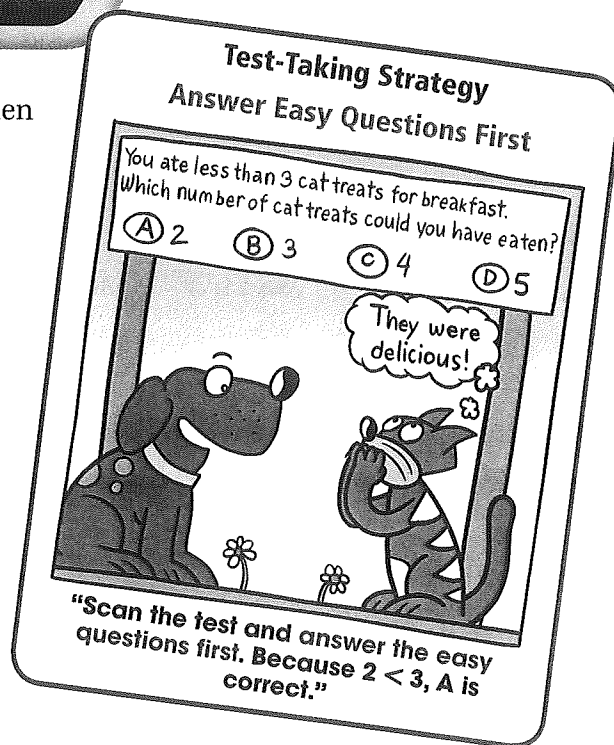
$$\frac{x}{-4} - 8 \geq -9$$



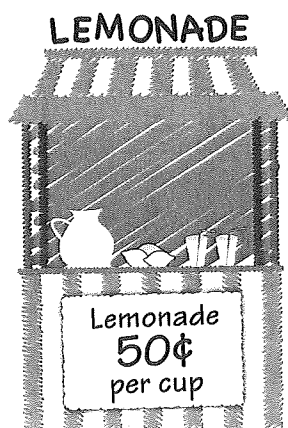
4. Which value of p makes the equation below true? (7.EE.4a)

$$5(p + 6) = 25$$

- F. -1
G. $3\frac{4}{5}$
H. 11
I. 14



5. You set up the lemonade stand. Your profit is equal to your revenue from lemonade sales minus your cost to operate the stand. Your cost is \$8. How many cups of lemonade must you sell to earn a profit of \$30?
(7.EE.4a)



- A. 4
B. 44
C. 60
D. 76
6. Which value is a solution of the inequality below? (7.EE.4b)

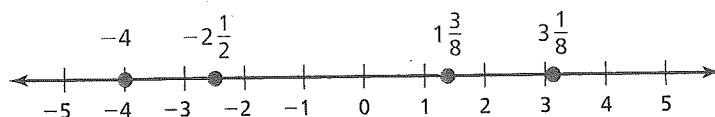
$$3 - 2y < 7$$

- F. -6
G. -3
H. -2
I. -1
7. What value of y makes the equation below true? (7.EE.4a)



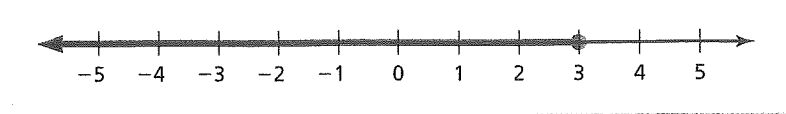
$$12 - 3y = -6$$

8. What is the mean distance of the four points from -3 ? (7.NS.3)



- A. $-\frac{1}{2}$
B. $2\frac{1}{2}$
C. 3
D. $7\frac{1}{8}$

9. Martin graphed the solution of the inequality $-4x + 18 > 6$ in the box below.



What should Martin do to correct the error that he made? (7.EE.4b)

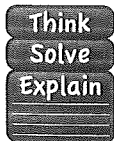
- F. Use an open circle at 3 and shade to the left of 3.
- G. Use an open circle at 3 and shade to the right of 3.
- H. Use a closed circle and shade to the right of 3.
- I. Use an open circle and shade to the left of -3 .

10. What is the value of the expression below? (7.NS.1c)



$$\frac{5}{12} - \frac{7}{8}$$

11. You are selling T-shirts to raise money for a charity. You sell the T-shirts for \$10 each. (7.EE.4b)



Part A You have already sold 2 T-shirts. How many more T-shirts must you sell to raise at least \$500? Explain.

Part B Your friend is raising money for the same charity. He sells the T-shirts for \$8 each. What is the total number of T-shirts he must sell to raise at least \$500? Explain.

Part C Who has to sell more T-shirts in total? How many more? Explain.

12. Which expression is equivalent to the expression below? (7.NS.3)

$$-\frac{2}{3} - \left(-\frac{4}{9}\right)$$

A. $-\frac{1}{3} + \frac{1}{9}$

C. $-\frac{1}{3} - \frac{7}{9}$

B. $-\frac{2}{3} \times \left(-\frac{1}{3}\right)$

D. $\frac{3}{2} \div \left(-\frac{1}{3}\right)$

5 Chapter Test

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Find the unit rate.

1. 84 miles in 12 days

2. $2\frac{2}{5}$ kilometers in $3\frac{3}{4}$ minutes

Tell whether the ratios form a proportion.

3. $\frac{1}{9}, \frac{6}{54}$

4. $\frac{9}{12}, \frac{8}{72}$

Use a graph to tell whether x and y are in a proportional relationship.

5.

x	2	4	6	8
y	10	20	30	40

6.

x	1	3	5	7
y	3	7	11	15

Use the table to write a proportion.

7.

	Monday	Tuesday
Gallons	6	8
Miles	180	m

8.

	Thursday	Friday
Classes	6	c
Hours	8	4

Solve the proportion.

9. $\frac{x}{8} = \frac{9}{4}$

10. $\frac{17}{3} = \frac{y}{6}$

Graph the line that passes through the two points. Then find the slope of the line.

11. $(15, 9), (-5, -3)$

12. $(2, 9), (4, 18)$

Tell whether x and y show direct variation. Explain your reasoning.

13. $xy - 11 = 5$

14. $x = \frac{3}{y}$

15. $\frac{y}{x} = 8$

16. **MOVIE TICKETS** Five movie tickets cost \$36.25.
What is the cost of 8 movie tickets?

17. **CROSSWALK** The graph shows the number of cycles of a crosswalk signal during the day and during the night.

- Compare the steepness of the lines. What does this mean in the context of the problem?
- Find and interpret the slope of each line.

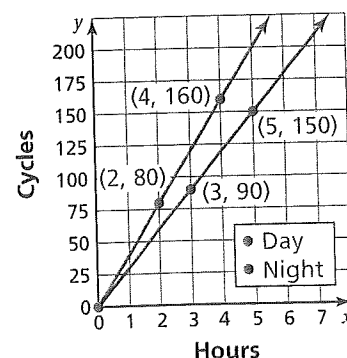


Don't Walk



Walk

Crosswalk Signal



18. **GLAZE** A specific shade of green glaze requires 5 parts blue to 3 parts yellow. A glaze mixture contains 25 quarts of blue and 9 quarts of yellow. How can you fix the mixture to make the specific shade of green glaze?

5 Standards Assessment

1. The school store sells 4 pencils for \$0.80.
What is the unit cost of a pencil? (7.RP.1)

A. \$0.20 C. \$3.20
B. \$0.80 D. \$5.00

2. Which expressions do *not* have a value of 3? (7.NS.3)

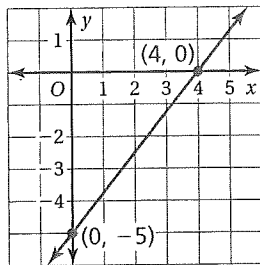
I. $2 + (-1)$ II. $2 - (-1)$
III. $-3 \times (-1)$ IV. $-3 \div (-1)$
F. I only H. II only
G. III and IV I. I, III, and IV

3. What is the value of the expression below? (7.NS.3)



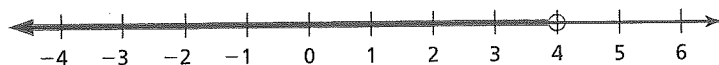
$$-4 \times (-6) - (-5)$$

4. What is the slope of the line shown? (7.RP.2b)

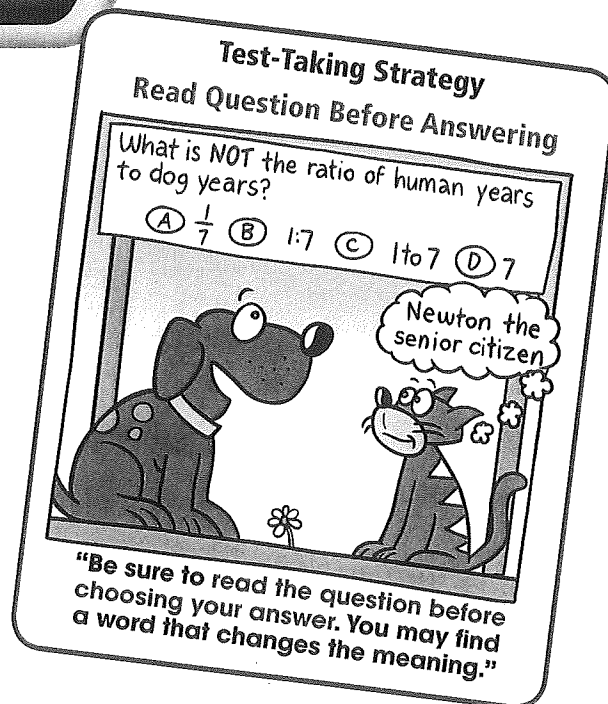


A. $\frac{4}{5}$ C. 4
B. $\frac{5}{4}$ D. 5

5. The graph below represents which inequality? (7.EE.4b)



F. $-3 - 6x < -27$ H. $5 - 3x > -7$
G. $2x + 6 \geq 14$ I. $2x + 3 \leq 11$



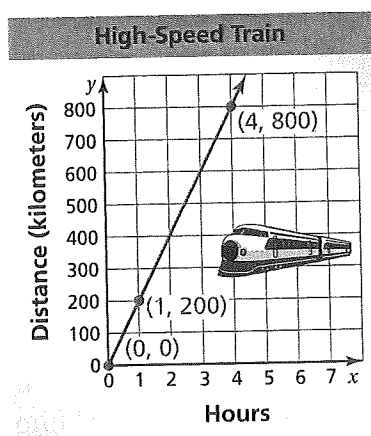
6. The quantities x and y are proportional. What is the missing value in the table? (7.RP.2a)

x	y
$\frac{2}{3}$	6
$\frac{4}{3}$	12
$\frac{8}{3}$	24
5	

- A. 30
B. 36
C. 45
D. 48
7. You are selling tomatoes. You have already earned \$16 today. How many additional pounds of tomatoes do you need to sell to earn a total of \$60? (7.EE.4a)
- F. 4
G. 11
H. 15
I. 19



8. The distance traveled by the a high-speed train is proportional to the number of hours traveled. Which of the following is *not* a valid interpretation of the graph below? (7.RP.2d)



- A. The train travels 0 kilometers in 0 hours.
B. The unit rate is 200 kilometers per hour.
C. After 4 hours, the train is traveling 800 kilometers per hour.
D. The train travels 800 kilometers in 4 hours.

9. Regina was evaluating the expression below. What should Regina do to correct the error she made? (7.NS.3)

$$\begin{aligned} -\frac{3}{2} \div \left(-\frac{8}{7}\right) &= -\frac{2}{3} \times \left(-\frac{7}{8}\right) \\ &= \frac{2 \times 7}{3 \times 8} \\ &= \frac{14}{24} \\ &= \frac{7}{12} \end{aligned}$$

- F. Rewrite $-\frac{3}{2} \div \left(-\frac{8}{7}\right)$ as $-\frac{2}{3} \times \left(-\frac{8}{7}\right)$.
- G. Rewrite $-\frac{3}{2} \div \left(-\frac{8}{7}\right)$ as $-\frac{3}{2} \times \left(-\frac{7}{8}\right)$.
- H. Rewrite $-\frac{3}{2} \div \left(-\frac{8}{7}\right)$ as $-\frac{3}{7} \times \left(-\frac{8}{2}\right)$.
- I. Rewrite $-\frac{2}{3} \times \left(-\frac{7}{8}\right)$ as $-\frac{2 \times 7}{3 \times 8}$.

10. What is the least value of t for which the inequality is true? (7.EE.4b)



$$3 - 6t \leq -15$$

11. You can mow 800 square feet of lawn in 15 minutes. At this rate, how many minutes will you take to mow a lawn that measures 6000 square feet? (7.RP.2c)



Part A Write a proportion to represent the problem. Use m to represent the number of minutes. Explain your reasoning.

Part B Solve the proportion you wrote in Part A. Then use it to answer the problem. Show your work.

12. What value of p makes the equation below true? (7.EE.4a)

$$6 - 2p = -48$$

A. -27

C. 21

B. -21

D. 27

6 Chapter Test

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Write the percent as a decimal.

1. 0.96%
2. 65%
3. 25.7%

Write the decimal as a percent.

4. 0.42
5. 7.88
6. 0.5854

Tell which number is greater.

7. $\frac{16}{25}$, 65%
8. 56%, 5.6

Use a number line to order the numbers from least to greatest.

9. 85%, $\frac{15}{18}$, 0.84
10. 58.3%, 0.58, $\frac{7}{12}$

Answer the question.

11. What percent of 28 is 21?
12. 64 is what percent of 40?
13. What number is 80% of 45?
14. 0.8% of what number is 6?

Identify the percent of change as an *increase* or a *decrease*. Then find the percent of change. Round to the nearest tenth of a percent if necessary.

15. 4 strikeouts to 10 strikeouts
16. \$24 to \$18

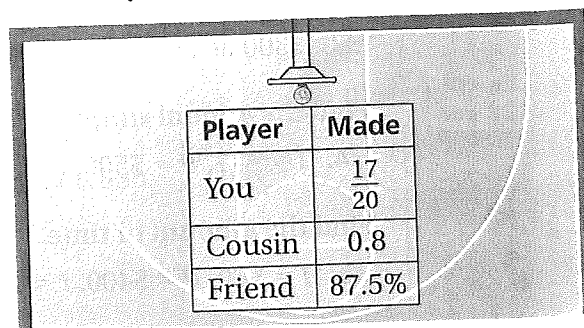
Find the sale price or selling price.

17. Original price: \$15
Discount: 5%
Sale price: ?
18. Cost to store: \$5.50
Markup: 75%
Selling price: ?

An account earns simple interest. Find the interest earned or the principal.

19. Interest earned: ?
Principal: \$450
Interest rate: 6%
Time: 8 years
20. Interest earned: \$27
Principal: ?
Interest rate: 1.5%
Time: 2 years

21. **BASKETBALL** You, your cousin, and a friend each take the same number of free throws at a basketball hoop. Who made the most free throws?
22. **PARKING LOT** You estimate that there are 66 cars in a parking lot. The actual number of cars is 75.
 - a. Find the percent error.
 - b. What other estimate gives the same percent error? Explain your reasoning.



Player	Made
You	$\frac{17}{20}$
Cousin	0.8
Friend	87.5%

23. **INVESTMENT** You put \$800 in an account that earns 4% simple interest. Find the total amount in your account after each year for 3 years.

6 Standards Assessment

1. A movie theater offers 30% off the price of a movie ticket to students from your school. The regular price of a movie ticket is \$8.50. What is the discounted price that you would pay for a ticket? (7.RP.3)

A. \$2.55 C. \$5.95
B. \$5.50 D. \$8.20

2. You are comparing the prices of four boxes of cereal. Two of the boxes contain free extra cereal.

- Box F costs \$3.59 and contains 16 ounces.
- Box G costs \$3.79 and contains 16 ounces, plus an additional 10% for free.
- Box H costs \$4.00 and contains 500 grams.
- Box I costs \$4.69 and contains 500 grams, plus an additional 20% for free.

Which box has the least unit cost? (1 ounce = 28.35 grams) (7.RP.3)

F. Box F

H. Box H

G. Box G

I. Box I

3. What value makes the equation $11 - 3x = -7$ true? (7.EE.4a)



4. Which proportion represents the problem below? (7.RP.3)

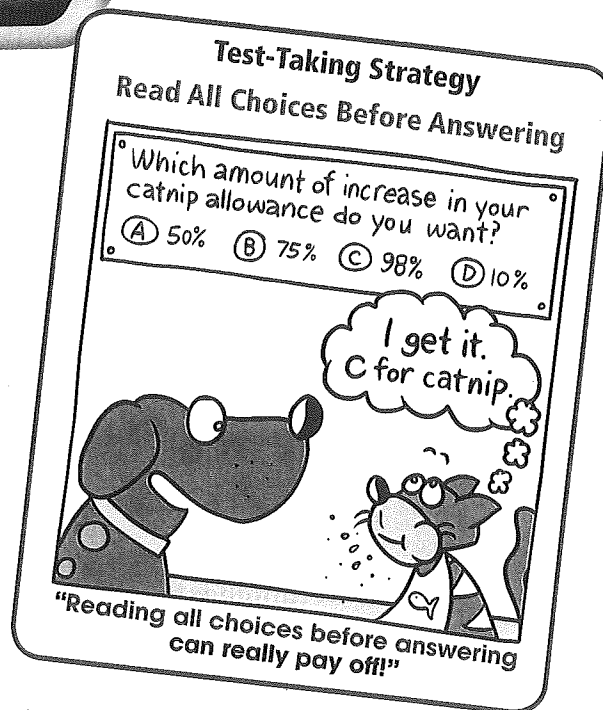
"17% of a number is 43. What is the number?"

A. $\frac{17}{43} = \frac{n}{100}$

C. $\frac{n}{43} = \frac{17}{100}$

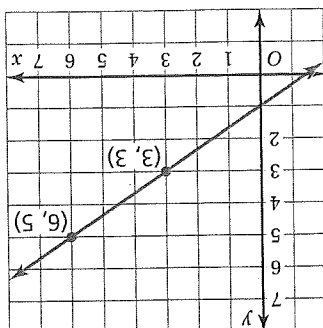
B. $\frac{n}{17} = \frac{43}{100}$

D. $\frac{43}{n} = \frac{17}{100}$



- G. $\frac{3}{2}$
F. $\frac{2}{3}$

- I. 3
H. 2



8. What is the slope of the line? (7.RP.2b)

- A. \$93
B. \$99
C. \$124
D. \$149
- Which price is closest to the sale price of the running shoes? (7.RP.3)



7. A pair of running shoes is on sale for 25% off the original price.



6. What is the value of $\frac{9}{8} \div \left(-\frac{11}{4}\right)$? (7.NS.2b)

- G. $0.09, \frac{5}{8}, 0.8, 70\%$
F. $0.8, \frac{5}{8}, 70\%, 0.09$
I. $0.09, \frac{5}{8}, 70\%, 0.8$
H. $\frac{5}{8}, 70\%, 0.8, 0.09$

5. Which list of numbers is in order from least to greatest? (7.EE.3)

9. Brad solved the equation in the box shown.

What should Brad do to correct the error that he made? (7.EE.4a)

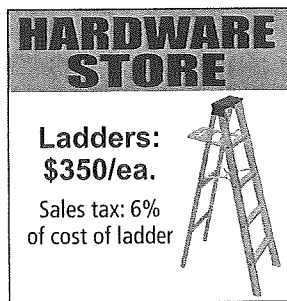
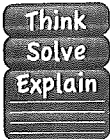
$$-3(2 + w) = -45$$

$$2 + w = -15$$

$$w = -17$$

- A. Multiply -45 by -3 to get $2 + w = 135$.
- B. Add 3 to -45 to get $2 + w = -42$.
- C. Add 2 to -15 to get $w = -13$.
- D. Divide -45 by -3 to get 15.

10. You are comparing the costs of a certain model of ladder at a hardware store and at an online store. (7.RP.3)

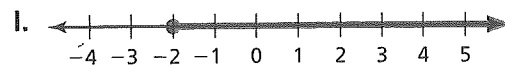
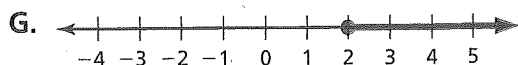
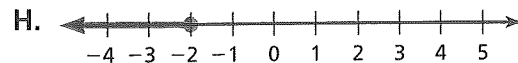
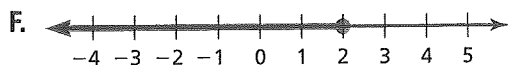


Part A What is the cost of the ladder at each of the stores? Show your work and explain your reasoning.

Part B Suppose that the hardware store is offering 10% off the price of the ladder and that the online store is offering free shipping and handling. Which store offers the better final cost? by how much? Show your work and explain your reasoning.

11. Which graph represents the inequality below? (7.EE.4b)

$$-5 - 3x \geq -11$$



13 Chapter Test

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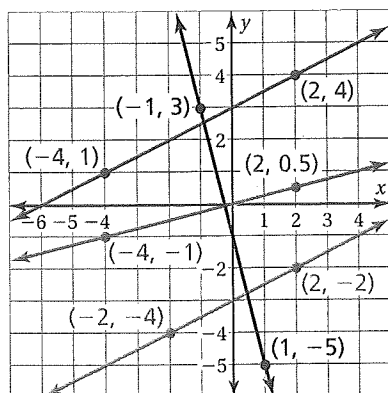
Find the slope and the y-intercept of the graph of the linear equation.

1. $y = 6x - 5$
2. $y = 20x + 15$
3. $y = -5x - 16$
4. $y - 1 = 3x + 8.4$
5. $y + 4.3 = 0.1x$
6. $-\frac{1}{2}x + 2y = 7$

Graph the linear equation.

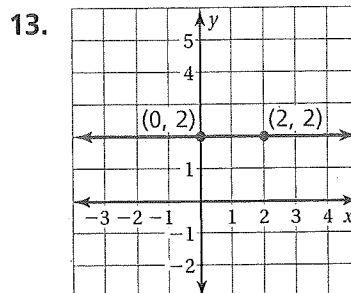
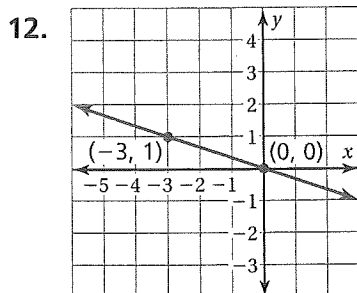
7. $y = 2x + 4$
8. $y = -\frac{1}{2}x - 5$
9. $-3x + 6y = 12$

10. Which lines are parallel? Which lines are perpendicular? Explain.
11. The points in the table lie on a line. Find the slope of the line.



x	y
-1	-4
0	-1
1	2
2	5

Write an equation of the line in slope-intercept form.

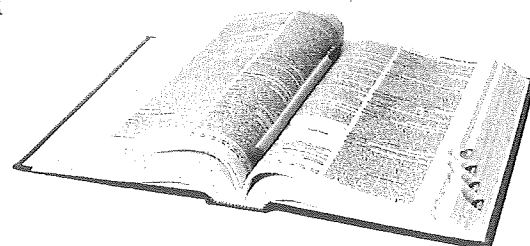


Write in slope-intercept form an equation of the line that passes through the given points.

14. $(-1, 5), (3, -3)$
15. $(-4, 1), (4, 3)$
16. $(-2, 5), (-1, 1)$

17. **VOCABULARY** The number y of new vocabulary words that you learn after x weeks is represented by the equation $y = 15x$.

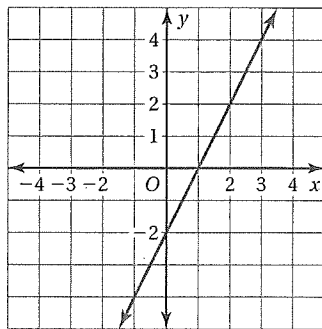
- a. Graph the equation and interpret the slope.
- b. How many new vocabulary words do you learn after 5 weeks?
- c. How many more vocabulary words do you learn after 6 weeks than after 4 weeks?



13 Standards Assessment

1. Which equation matches the line shown in the graph? (8.EE.6)

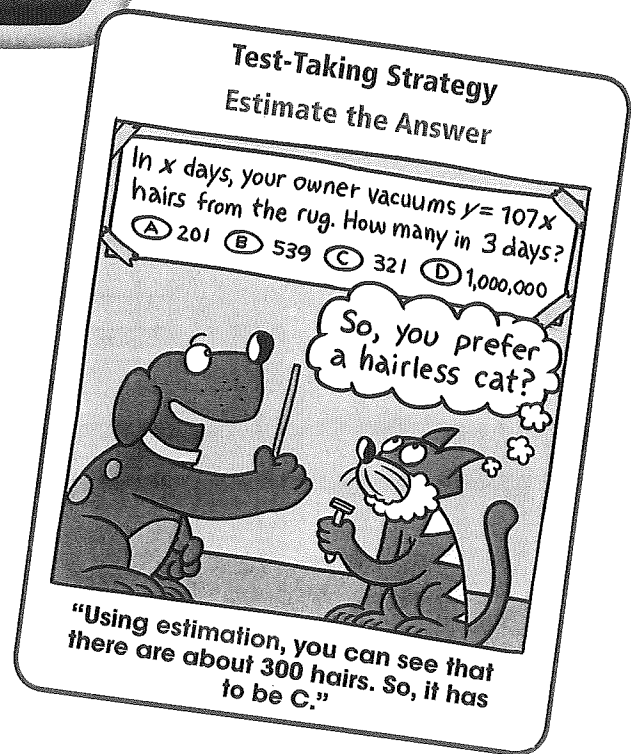
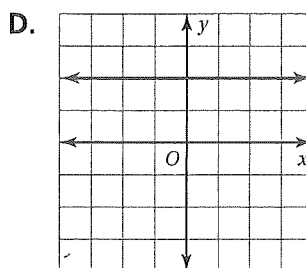
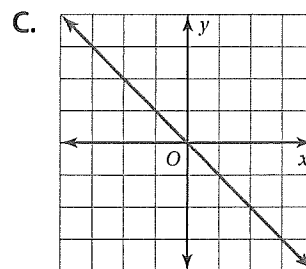
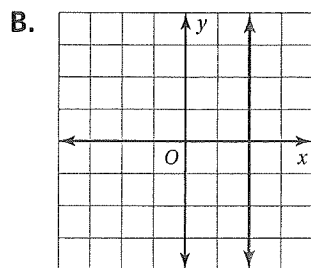
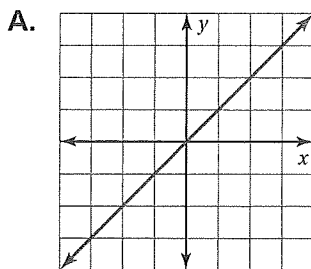
- A. $y = 2x - 2$
- B. $y = 2x + 1$
- C. $y = x - 2$
- D. $y = x + 1$



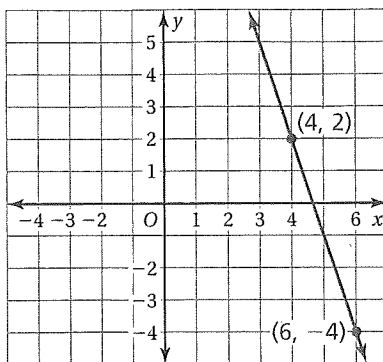
2. The equation $6x - 5y = 14$ is written in standard form. Which point lies on the graph of this equation? (8.EE.6)

- F. $(-4, -1)$
- G. $(-2, 4)$
- H. $(-1, -4)$
- I. $(4, -2)$

3. Which line has a slope of 0? (8.EE.6)



4. Which of the following is the equation of a line perpendicular to the line shown in the graph? (8.EE.6)



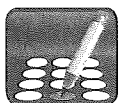
F. $y = 3x - 10$

H. $y = -3x + 5$

G. $y = \frac{1}{3}x + 12$

I. $y = -\frac{1}{3}x - 18$

5. What is the slope of the line that passes through the points (2, -2) and (8, 1)? (8.EE.6)



6. A cell phone plan costs \$10 per month plus \$0.10 for each minute used. Last month, you spent \$18.50 using this plan. This can be modeled by the equation below, where m represents the number of minutes used.

$$0.1m + 10 = 18.5$$

How many minutes did you use last month? (8.EE.7b)

A. 8.4 min

C. 185 min

B. 85 min

D. 285 min

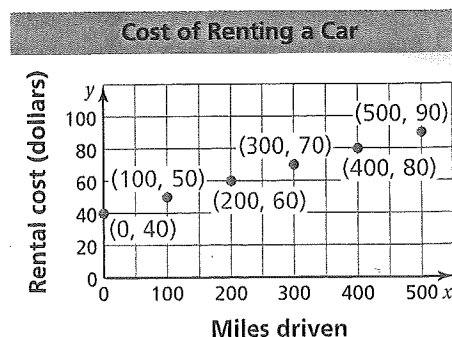
7. It costs \$40 to rent a car for one day.

Think
Solve
Explain

In addition, the rental agency charges you for each mile driven, as shown in the graph. (8.EE.6)

Part A Determine the slope of the line joining the points on the graph.

Part B Explain what the slope represents.

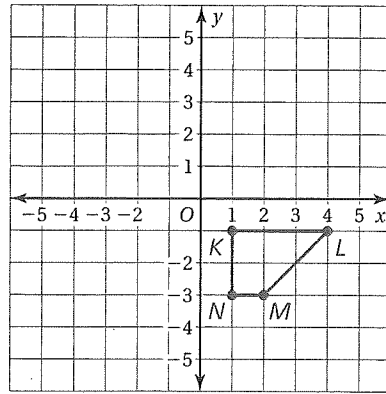


8. What value of x makes the equation below true? (8.EE.7a)



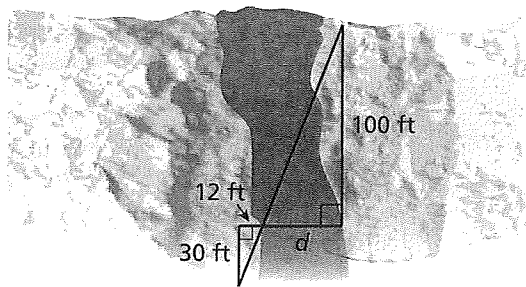
$$7 + 2x = 4x - 5$$

9. Trapezoid $KLMN$ is graphed in the coordinate plane shown.



Rotate Trapezoid $KLMN$ 90° clockwise about the origin. What are the coordinates of point M' , the image of point M after the rotation? (8.G.3)

- F. $(-3, -2)$ H. $(-2, 3)$
 G. $(-2, -3)$ I. $(3, 2)$
10. Solve the formula $K = 3M - 7$ for M . (8.EE.7b)
- A. $M = K + 7$ C. $M = \frac{K}{3} + 7$
 B. $M = \frac{K+7}{3}$ D. $M = \frac{K-7}{3}$
11. What is the distance d across the canyon? (8.G.5)



- F. 3.6 ft H. 40 ft
 G. 12 ft I. 250 ft