1 Jonathan puts a fence around the perimeter of his rectangular lawn. The lawn measures 18 feet long by 12 feet wide. How long, in feet, is the fence around his lawn?

Ⓐ 30 feet
Ⓑ 60 feet
Ⓒ 108 feet
Ⓓ 216 feet

---

2 Determine all of the factors for the number 18.

Part A
Which list includes all of the factor pairs for 18?

Ⓐ 2×9, 3×6, 18×0
Ⓑ 1×18, 2×9, 3×6
Ⓒ 1×18, 2×9, 3×6, 4×4
Ⓓ 0×18, 2×9, 3×6, 4×4

Part B
Which of these numbers is a prime factor of 18?

Select **all** the answers that apply.

Ⓐ 2
Ⓑ 3
Ⓒ 4
Ⓓ 6
Ⓔ 9
Ⓕ 18

---

3 Paolo solves the equation $928 \div 4 = x$. What is the value of x?

Ⓐ 27
Ⓑ 207
Ⓒ 232
Ⓓ 237

Name _____

4 Miguel adds $\frac{2}{5} + \frac{2}{5}$ and gets the correct sum. What is another way that he can add fractions to get the same sum?

Ⓐ $\frac{2}{5} + \frac{1}{5} + \frac{1}{5}$

Ⓑ $\frac{1}{5} + \frac{2}{5} + \frac{2}{5}$

Ⓒ $\frac{2}{5} + \frac{3}{5} + \frac{1}{5}$

Ⓓ $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

5 How many times greater is the 2 in the number 2,741 than the 2 in the number 283?

10

6 Which comparison is true?

Ⓐ $0.24 > 0.28$

Ⓑ $0.43 < 0.40$

Ⓒ $0.67 < 0.68$

Ⓓ $0.83 > 0.85$

7 Angle *G* measures 90 degrees. How many one-degree turns are there in angle *G*?

Ⓐ 30

Ⓑ 60

Ⓒ 90

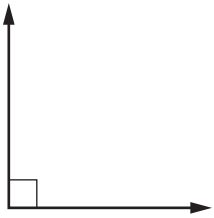
Ⓓ 180

8 Kristen has to drive 808 miles in 5 days. She drives 180 miles the first day. Kristen plans to drive the same amount of miles each of the next 4 days. If *x* represents the number of miles she drives on each of those 4 days, what is the value of *x*?

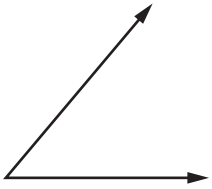
$x =$ 157

9 Which figure is an example of parallel lines?

Ⓐ



Ⓑ



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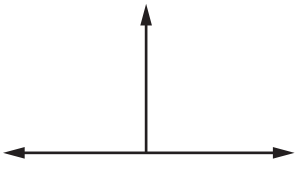

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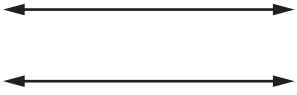


10 Which equations show a way to solve $312 \times 5 = x$?

Select **all** the correct answers.

Ⓐ $x = 300 \times 5 + 12$

Ⓑ $x = (300 + 5) \times 12$

Ⓒ $x = 300 + 10 + (2 \times 5)$

Ⓓ $x = (300 \times 5) + (12 \times 5)$

Ⓔ $x = (300 \times 5) + (10 \times 5) + (2 \times 5)$

---

11 What is the sum of $\frac{5}{10} + \frac{27}{100}$?

Ⓐ $\frac{77}{10}$

Ⓑ $\frac{32}{10}$

Ⓒ $\frac{77}{100}$

Ⓓ $\frac{32}{100}$

---

12 Lu rode in a 50-kilometer road race during the course of 3 days. Lu rode exactly $\frac{1}{2}$ the distance of the race on the first day. He rode $\frac{2}{5}$ of the remaining distance on the second day. How many kilometers did he have left to ride on the last day?

15 kilometers

13 Which of these is another way to write $\frac{2}{6} + \frac{4}{6} + \frac{1}{6}$?

Ⓐ $\frac{3}{6} + \frac{3}{6}$

Ⓑ $\frac{7}{6} + \frac{1}{6}$

Ⓒ $1 + \frac{1}{6}$

Ⓓ $\frac{1}{6} + \frac{2}{6} + \frac{4}{6} + 1$

Name _____

14 Stefan is trying to determine which values properly balance some equations.

Part A

Which equations were solved correctly?

Select the **two** correct answers.

Ⓐ $68 + 12 = n + 55$; $n = 5$

Ⓑ $23 + 46 = s + 50$; $s = 9$

Ⓒ $r + 20 = 14 + 43$; $r = 27$

Ⓓ $70 + y = 68 + 14$; $y = 12$

Ⓔ $20 + c = 5 + 31$; $c = 16$

Part B

Stefan looks at another equation on his list.

$20 + b = 22 + 7$; $b = 9$.

How could Stefan relate the left side of the equation to the right side of the equation to know that this equation was solved correctly?

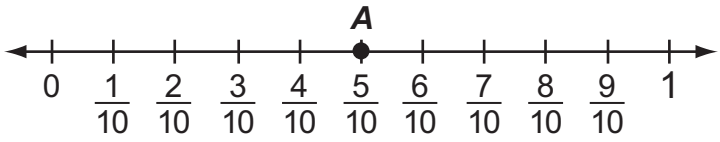
Ⓐ 22 minus 20 equals 2, and 9 minus 7 equals 2.

Ⓑ 22 plus 7 is the same as 9 times 2 plus 2 plus 7.

Ⓒ 22 plus 7 is 29, so the unknown must have a 9 in it.

Ⓓ 20 is two less than 22, so the unknown must be 2 more than 7.

15 Maria is trying to determine an equivalent fraction to point *A* on the number line.



Which of these correctly explains the fraction that is equivalent to point *A* on the number line?

Ⓐ $\frac{4}{5}$ is equivalent because there are four positions before point *A*.

Ⓑ $\frac{1}{2}$ is equivalent because five parts out of ten is the same as one part out of two.

Ⓒ $\frac{2}{3}$ is equivalent because point *A* is two-thirds of the way to the end of the number line.

Ⓓ $\frac{1}{4}$ is equivalent because there are only four more fractions after point *A* until it reaches one whole.

16 Sal is trying to determine if these numbers are correctly rounded to the nearest hundred. Place an X in the table to show whether the numbers are rounded correctly or incorrectly.

	Rounded Correctly	Rounded Incorrectly
1,275 rounded to 1,300	X	
2,752 rounded to 2,700		X
3,629 rounded to 3,700		X

Name _____

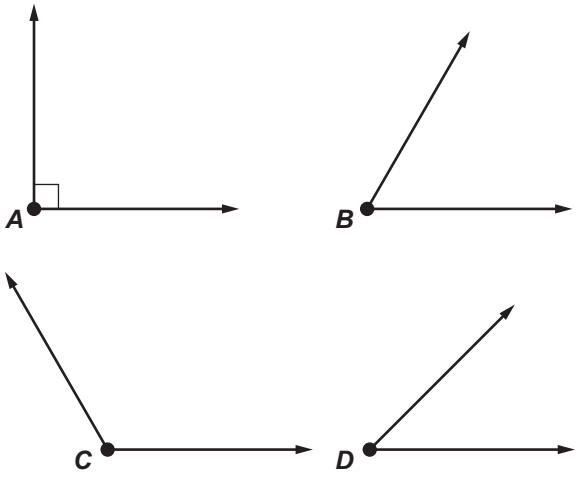
17 Anna has 6 times as many marbles as Rachel. Rachel has 4 marbles. Create an equation to represent the situation.

Fill in the blanks with the correct answers from the list to complete the equation.

4 ___×___ ___6___ = ?

+	÷	×	−	4	6

18 Four angles are shown.



What are the measurements of these angles?

Draw a line from the angle to the correct angle measurement it matches.

Angle *A*	45°
Angle *B*	120°
Angle *C*	60°
Angle *D*	90°

19 A rectangle is 6 feet long and 3 feet wide. What are the length and width, in inches, of the rectangle?

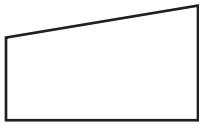
Fill in the blanks with the correct answers from the list.

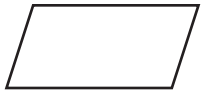
The rectangle is 72 inches long and 36 inches wide.

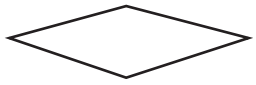
1	2	30	36	60	72

20 Which figure has a pair of perpendicular sides?

Ⓐ 

Ⓑ 

Ⓒ 

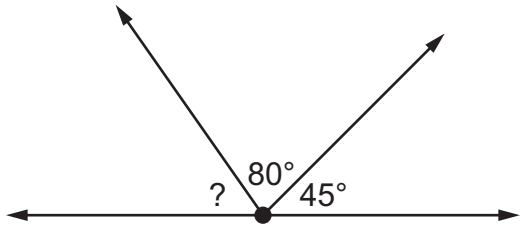
Ⓓ 

21 What is the value of n in the equation?

$317 - n = 320 - 15$

Ⓐ 5
Ⓑ 12
Ⓒ 18
Ⓓ 45

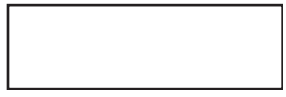
22 What is the measure of the unknown angle in the diagram?



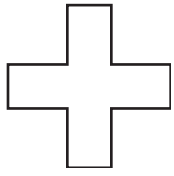
Ⓐ 55°
Ⓑ 75°
Ⓒ 125°
Ⓓ 180°

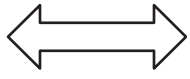
23 Lida draws a figure with exactly two lines of symmetry. Which figures could Lida draw?

Select **all** the figures that Lida could draw.

Ⓐ 

Ⓑ 

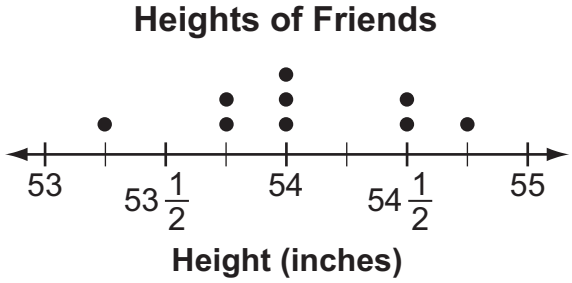
Ⓒ 

Ⓓ 

Ⓔ 

Name _____

24 Uma recorded the heights of 9 of her friends and displayed them in a line plot.



Uma is $\frac{3}{4}$ inch taller than the shortest friend. How tall is Uma?

Fill in the blanks with the correct answers from the list to complete the sentence.

The shortest height is $53\frac{1}{4}$ inches, so Uma is 54 inches tall.

$52\frac{1}{2}$	53	$53\frac{1}{4}$	54	$54\frac{3}{4}$	$55\frac{1}{2}$

25 Place an X in the table to tell whether each number is less than or greater than 305,268.

	Less than 305,268	Greater than 305,268
312,047		X
$3 \times 10{,}000 + 5 \times 1{,}000 + 7 \times 100 + 1 \times 10 + 4$	X	
3 hundred thousands, 5 hundreds, 4 tens, 9 ones	X	

26 What is the sum of 23,614 and 158,630?

182,244

27 Nathan makes a tower using blocks that are $\frac{5}{6}$ inch high. He stacks 14 blocks on top of each other. How many inches tall is Nathan's tower?

Ⓐ $3\frac{1}{6}$ inches

Ⓑ $11\frac{4}{6}$ inches

Ⓒ $14\frac{5}{6}$ inches

Ⓓ $16\frac{4}{5}$ inches

28 Patrick wakes up at 7:15 a.m. He takes 30 minutes to get dressed and eat breakfast. He packs his lunch and then reads for 14 minutes before he leaves his house at 8:10 a.m. How many minutes does Patrick take to pack his lunch?

Ⓐ 11 minutes

Ⓑ 13 minutes

Ⓒ 21 minutes

Ⓓ 26 minutes

29 At Evan's school, 26 students take French. If 3 times as many students take Spanish than French, how many students take Spanish at Evan's school?

78 students

30 What is the quotient of 5,100 ÷ 6?

Ⓐ 850

Ⓑ 846 r4

Ⓒ 833 r2

Ⓓ 805

31 Which statement correctly compares $\frac{2}{5}$ and $\frac{3}{4}$?

Ⓐ $\frac{2}{5} < \frac{3}{4}$
because 3 is greater than 2.

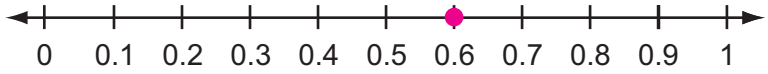
Ⓑ $\frac{2}{5} > \frac{3}{4}$
because 5 is greater than 4.

Ⓒ $\frac{2}{5} < \frac{3}{4}$
because $\frac{3}{4}$ is greater than $\frac{1}{2}$ and $\frac{2}{5}$ is less than $\frac{1}{2}$.

Ⓓ $\frac{2}{5} > \frac{3}{4}$
because $\frac{2}{5}$ is greater than $\frac{1}{2}$ and $\frac{3}{4}$ is less than $\frac{1}{2}$.

Name _____

32 Plot a point on the number line that is equal to $\frac{6}{10}$.



33 The first number in a pattern is 40. The pattern follows the rule "Subtract 6." What are the next 3 numbers in the pattern?

Numbers in the Pattern
40
34
28
22

34 Gemma picks 80 peaches from a peach tree. She uses 17 of them to make peach cobbler. She places the remaining peaches equally into 9 gift baskets.

- Write an equation that can be used to determine the number of peaches, *p*, that Gemma places into each gift basket.
- Find the number of peaches that Gemma places into each gift basket.
- Explain how you can check the reasonableness of your answer.

Name _____

35 Mrs. Dawson reads the same number of books to her class each week. The table below shows the total number of books that Mrs. Dawson has read to her class at the end of weeks 2, 3, and 4.

Mrs. Dawson's Books

Week	Number of Books
2	8
3	12
4	16
5	?

- Write a number sentence that could be used to find the total number of books that Mrs. Dawson will have read to her students at the end of week 5 if the pattern continues.
- Find the total number of books that Mrs. Dawson has read to her students at the end of week 5.
- Based on the pattern, one of the students in Mrs. Dawson's class makes the statement that Mrs. Dawson will read a total of 80 books over the course of a 9-week marking period. Explain the error in the student's statement. As part of your explanation, find the correct number of books that Mrs. Dawson will have read over the course of a 9-week marking period.

36 A nursery owner grows 8 different types of bushes.

- She grows the bushes on her 56-acre farm. She grows 32 bushes per acre. What is the total number of bushes growing on her farm?
- The nursery owner grows an equal number of each type of bush. One of the types of bushes that she grows is lilac. What is the total number of lilac bushes that she grows?

Name _____

37 The table shows the sizes and weights of bags of mixed nuts sold at a store.

Mixed Nuts

Size	Weight (pounds)
Small	$\frac{1}{8}$
Medium	$\frac{3}{8}$
Large	$\frac{7}{8}$
Jumbo	$\frac{11}{8}$

- Steve buys 9 medium bags of mixed nuts, and Alice buys 3 jumbo bags of mixed nuts. What is the difference in the weights, in pounds, of Steve's and Alice's purchases?
- Explain how you got your answer.

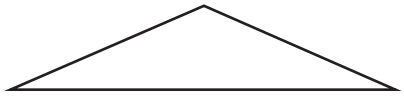
38 Alp's dog has a lot of toys.

- He has tennis balls, chewing toys, and squeaking toys. He has 4 times as many tennis balls as squeaking toys. He has 2 times as many tennis balls as chewing toys. He has 4 squeaking toys. How many tennis balls and chewing toys does Alp's dog have?

- Alp has two fewer leashes for his dog than the number of squeaking toys. How many leashes does he have?

Name _____

39 Is this triangle best described as right, acute, or obtuse?



Explain how you know your answer is correct. Then explain why the other two choices are not correct.

34

Score	Description
3	Student response should include each of the following 3 elements. • Writes the correct equation. • Finds the total number of peaches placed in each gift basket. • Explains how to check the reasonableness of the answer. **Possible Student Response:** • $(80 - 17) \div 9 = p$ • Gemma places 7 peaches into each gift basket. • The reasonableness of the answer can be checked by substituting the answer 7 back into the equation for c to see if it makes the equation true. Or other appropriate strategies are acceptable.
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	The response is incorrect or irrelevant.

Name _____

35

Score	Description
3	Student response should include each of the following 3 elements. • Writes a number sentence to find the total number of books Mrs. Dawson reads to her students by the end of week 5. • Finds the total number of books that Mrs. Dawson reads to her students by the end of week 5. • Provides an explanation of the error in the student's statement. **Possible Student Response:** • To find the total number of books Mrs. Dawson reads to her students by the end of week 5, the following possible number sentences can be used: $5 \times 4 = \square$ or $16 + 4 = \square$. • Mrs. Dawson reads a total of 20 books to her class by the end of the week 5. • Mrs. Dawson's student did not recognize that Mrs. Dawson reads 4 books each week to her students. Instead of multiplying 4×9, the student multiplied 20×4, which equals 80. The correct number of books that Mrs. Dawson reads to her students over the course of a 9-week marking period is 36. Or other appropriate strategies are acceptable.
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	The response is incorrect or irrelevant.

36

Score	Description
3	Student response should include each of the following 3 elements. • Demonstrates a thorough understanding of the mathematical concepts in the question. • Correctly calculates the total number of bushes using a mathematically sound procedure. • Provides a correct solution for the number of lilac bushes. **Possible Student Response:** The nursery owner has 56 acres that each have 32 bushes. To get the total number of bushes, multiply 56 by 32 to get 1,792. I know that there are 8 types of bushes, with an equal number of each type. I divided the total 1,792 by 8 to get 224 bushes of each type, which means there are 224 lilac bushes. Or other appropriate strategies are acceptable.
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	The response is incorrect or irrelevant.

Name _____

37

Score	Description
3	Student response should include each of the following 3 elements. • Demonstrates a thorough understanding of the mathematical concepts in the question. • Correctly calculates the weight of each purchase using mathematically sound procedures. • Correctly calculates the difference in the weights using mathematically sound procedures. **Possible Student Response:** First, I multiplied the number of bags by the pounds per bag for both people. Then, I subtracted the smaller number of pounds from the larger number of pounds. Steve's purchase: $9 \times \frac{3}{8} = \frac{27}{8} = 3\frac{3}{8}$ pounds Alice's purchase: $3 \times \frac{11}{8} = \frac{33}{8} = 4\frac{1}{8}$ pounds Subtract the weight of Steve's bags from Alice's: $\frac{33}{8} - \frac{27}{8} = \frac{6}{8} = \frac{3}{4}$ Alice's bags weigh $\frac{3}{4}$ pound more. Or other appropriate strategies are acceptable.
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	The response is incorrect or irrelevant.

38

Score	Description
2	Student response should include each of the following 2 elements. • Determines the number of leashes, tennis balls, and chewing toys Alp's dog has. • Explains how the student found the number of leashes, tennis balls, and chewing toys Alp's dog has. **Possible Student Response:** Alp's dog has 4 squeaking toys, and he has 4 times as many tennis balls as squeaking toys. You can multiply to find out how many tennis balls he has: $4 \times 4 = 16$. He has 16 tennis balls. The passage says that he has 2 times as many tennis balls as chewing toys, which also means there are half as many chewing toys as tennis balls. $16 \div 2 = 8$, so he has 8 chewing toys. Alp's dog has 2 fewer leashes than squeaking toys, so I can subtract to find the number of leashes. $4 - 2 = 2$. Alp has 2 leashes. Or other appropriate strategies are acceptable.
1	Student response includes 1 of the above elements.
0	The response is incorrect or irrelevant.

Name _____

39

Score	Description
3	Student response should include each of the following 3 elements. • States that the triangle is an obtuse triangle. • Explains why the triangle is obtuse. • Explains why the triangle is not right or acute. **Possible Student Response:** The triangle is an obtuse triangle. It is obtuse because one of the angles is greater than 90°. In an obtuse triangle, one angle is greater than 90°. The triangle is not a right triangle because it does not have a 90° angle. The triangle is not an acute triangle because not all of the angles are less than 90°. Or other appropriate strategies are acceptable.
2	Student response includes 2 of the above elements.
1	Student response includes 1 of the above elements.
0	The response is incorrect or irrelevant.