



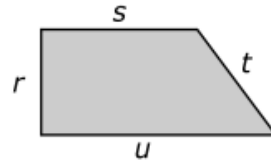
Math

Spring Operational 2016

Grade 4

Released Items

A trapezoid is shown.



Which statement is true about side r ?

- A. Side s is parallel to side r .
 - B. Side t is parallel to side r .
 - C. Side u is parallel to side r .
 - D. None of the sides are parallel to side r .
-

There are 4,328 people at a basketball game. There are 6 times as many people at a football game. How many people are at the football game?

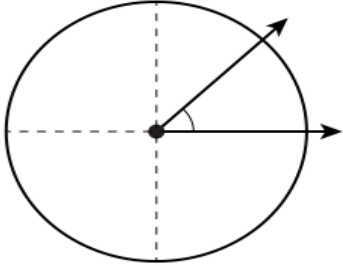
- A. 24,828
- B. 24,968
- C. 25,828
- D. 25,968

A pitcher contains 2 liters of juice. A glass is filled with 180 milliliters of juice from the pitcher. How many milliliters of juice are left in the pitcher after filling the glass?

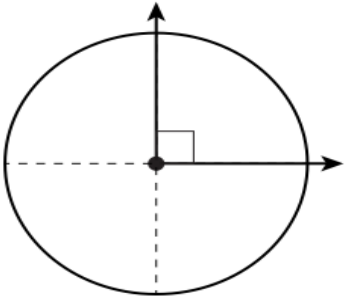
Enter your answer in the box.

Which diagram shows a 45° angle from the center of the circle?

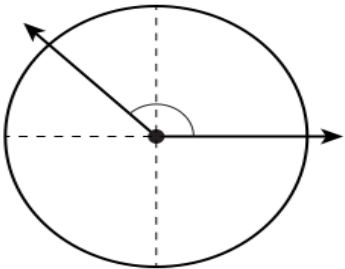
A.



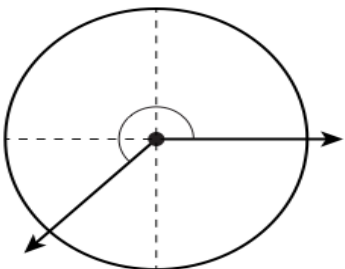
B.



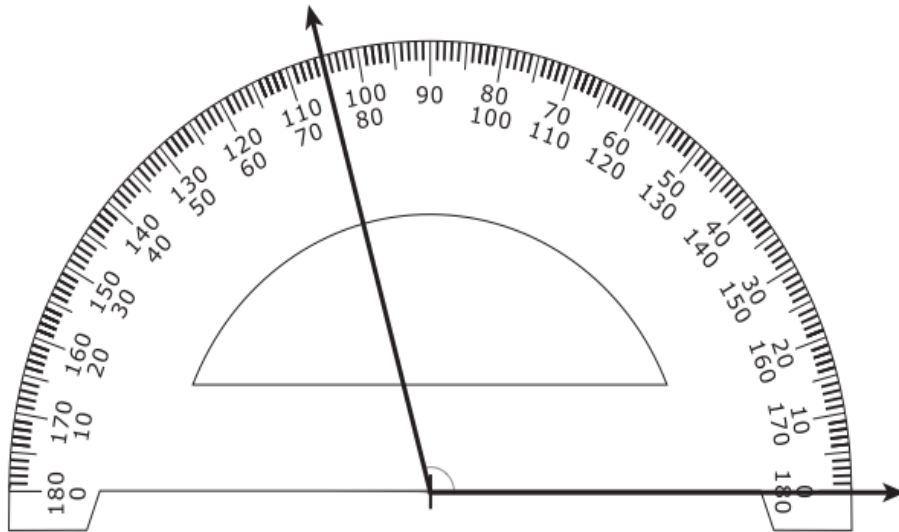
C.



D.



An angle is shown on a protractor.



What is the measure, in degrees, of the angle shown?

- A. 75°
- B. 85°
- C. 105°
- D. 115°

6

VH072837

Which **three** show correct ways to round the number 545,803?

- A. rounding to the nearest 10 is 545,800
- B. rounding to the nearest 100 is 545,800
- C. rounding to the nearest 1,000 is 545,000
- D. rounding to the nearest 10,000 is 550,000
- E. rounding to the nearest 100,000 is 600,000

7

M03732

What is the sum of 5,980 and 3,806?

Drag and drop each correct number into the appropriate box.

$$\begin{array}{r} 5,980 \\ + 3,806 \\ \hline \square, \square \square \square \end{array}$$

0	1	2	3	4	5	6	7	8	9
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8

MO0128

What is the value of the expression shown?

$$6170 - 4159$$

Enter your answer in the box.

9

MO1699

What is the value of the expression shown?

$$332 \times 8$$

- A. 2,446
- B. 2,456
- C. 2,646
- D. 2,656

10

VH080328

Enter your answers in the boxes. If there is no remainder, enter 0 in the remainder answer box.

$$3,245 \div 5 = \boxed{}$$

Remainder:

11

MO3548

The product of 60 and 90 is 5,400.

How will the product change using the expression shown?

$$5 \text{ tens and } 9 \text{ ones} \times 90$$

- A. The product will decrease by 1.
- B. The product will decrease by 31.
- C. The product will decrease by 59.
- D. The product will decrease by 90.

Brandon took pictures while on vacation. Of the pictures he took, $\frac{1}{3}$ were of animals, $\frac{1}{5}$ were of people, and $\frac{4}{12}$ were of buildings.

Select your choices from the drop-down menus to describe correctly the number of pictures Brandon took of animals.

The number of pictures Brandon took of animals is the number of pictures he took of people.

less than
more than
the same as

The number of pictures Brandon took of animals is the number of pictures he took of buildings.

less than
more than
the same as

What is the decimal form of each fraction?

Drag and drop the correct decimal form into the box below each fraction.

0.8	0.9	0.08	0.09	0.008	0.009
-----	-----	------	------	-------	-------

Fraction Form

Decimal Form

Which statement represents the equation $90 = 9 \times 10$?

- A. 9 is 10 less than 90.
- B. 90 is 9 more than 10.
- C. 9 is 10 times as many as 90.
- D. 90 is 9 times as many as 10.

An orca whale is 30 feet long. A blue whale is 3 times the length of an orca whale. Which equation shows the relationship between the lengths of the orca whale and the blue whale?

- A. $3 \times 30 = 90$
- B. $3 + 30 = 33$
- C. $3 \times 10 = 30$
- D. $30 + 30 + 30 + 30 = 120$

16

M03202

Rachel is 12 years old. Rachel's aunt is 3 times as old as Rachel.

What is the age, in years, of Rachel's aunt?

Enter your answer in the box.

17

M03658

A mother bought a new car.

- She drove her car 425 miles in the first month.
- She drove 3 times as many miles in the second month as she did in the first month.
- She drove her car 380 miles in the third month.

What is the total number of miles the mother drove her car in those three months?

- A. 425
- B. 850
- C. 1,275
- D. 2,080

18

VH006719

Select the **two** numbers that are composite.

- A. 55
- B. 67
- C. 73
- D. 89
- E. 93

19

M03739

The first number in a pattern is 3. The pattern rule is to add 4. What is the seventh number in the pattern?

3, →, →, →, →, →, →, □

Enter your answer in the box.

An elementary school held a fund-raiser. The third grade raised \$3,681, the fourth grade raised \$5,532, and the fifth grade raised \$4,989.

Part A

What is the total amount raised by all three grade levels?

- A. \$12,092
- B. \$12,202
- C. \$14,002
- D. \$14,202

Part B

How much more did the third- and fifth-grade classes raise together than the fourth-grade class?

- A. \$2,028
- B. \$3,138
- C. \$3,142
- D. \$4,224

Part A

Find the product of 72 and 20 and then subtract 2 hundreds + 4 tens.

Enter your answer in the box.

Part B

What is 14 hundreds + 4 tens + 4 ones rounded to the nearest ten and then divided by 4?

- A. 35
- B. 36
- C. 350
- D. 360

Part A

Three students ate from a plate of cookies. Daniel ate $\frac{1}{12}$ of the cookies, Mariel ate $\frac{4}{12}$ of the cookies, and Tamika ate $\frac{2}{12}$ of the cookies. What fraction of the cookies was left on the plate?

- A. $\frac{4}{12}$
- B. $\frac{5}{12}$
- C. $\frac{6}{12}$
- D. $\frac{7}{12}$

Part B

The three students had milk with their cookies. Daniel drank $\frac{1}{10}$ of the milk, Mariel drank $\frac{1}{10}$ of the milk, and Tamika drank $\frac{2}{10}$ of the milk. What fraction of the milk did the three students drink?

- A. $\frac{2}{10}$
- B. $\frac{3}{10}$
- C. $\frac{4}{10}$
- D. $\frac{6}{10}$

Part A

Two students are comparing fractions. Select **four** correct boxes in the table to show whether each fraction is less than or greater than $\frac{7}{10}$.

Fraction	Less than $\frac{7}{10}$	Greater than $\frac{7}{10}$
$\frac{3}{5}$	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{1}{2}$	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{4}{5}$	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{50}{100}$	<input type="checkbox"/>	<input type="checkbox"/>

Part B

Select from the drop-down menus to correctly complete each comparison.

$\frac{3}{5}$	Choose...	<input type="radio"/> < <input type="radio"/> > <input type="radio"/> =	$\frac{1}{2}$
$\frac{1}{2}$	Choose...	<input type="radio"/> < <input type="radio"/> > <input type="radio"/> =	$\frac{50}{100}$
$\frac{4}{5}$	Choose...	<input type="radio"/> < <input type="radio"/> > <input type="radio"/> =	$\frac{50}{100}$

Part A

Jake has $\frac{3}{8}$ cup of water in a bottle. The bottle can hold up to 5 times this amount. Which values represent the total amount of water, in cups, the bottle can hold?

Select the **three** correct answers.

- A. $\frac{15}{8}$
- B. $5 + \frac{3}{8}$
- C. $\frac{(5 \times 3)}{8}$
- D. $\frac{(5+3)}{8}$
- E. $15 \times \frac{1}{8}$
- F. $15 + \frac{1}{8}$

Part B

Jake has $\frac{3}{8}$ cup of water in a bottle. He adds some water to the bottle. The total amount of water in the bottle is greater than $\frac{3}{4}$ cup. Which fractions could be the amount he added to the bottle?

Select the **two** correct answers.

- A. $\frac{1}{8}$
 - B. $\frac{2}{8}$
 - C. $\frac{3}{8}$
 - D. $\frac{4}{8}$
 - E. $\frac{5}{8}$
-

Part A

Mia's family has an orchard with fruit trees. Of those trees, $\frac{6}{10}$ are apple trees.

How many hundredths is equivalent to $\frac{6}{10}$?

Enter your answer in the box.

Part B

In the orchard, $\frac{16}{100}$ of the trees are pear trees.

What fraction of the trees in the orchard are apple trees or pear trees?

Enter your answer as a fraction in the boxes.

Part A

Using properties of operations, explain why the expression $8 \times (3,000 + 600 + 5)$ can or cannot be used to find the value of $3,605 \times 8$.

Enter your explanation in the space provided.



▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(-)	[]
=	<	>	≠
\$	°	?	

Part B

Write a new expression that can be used to find the value of $3,605 \times 8$.

Enter your expression in the space provided. Enter **only** your expression.

↶	+	-	×	÷	$\frac{\square}{\square}$	$\frac{\square}{\square}$
↷	=	<	>	(-)	[]	\$
🗑️						

Part C

What is the value of $3,605 \times 8$?

Enter your answer in the box.

Simone changed the mixed number $4\frac{1}{3}$ to a fraction. First, Simone changed the whole number 4 to the fraction $\frac{4}{3}$. Then she added the two fractions together. Her work is shown.

$$4\frac{1}{3} = 4 + \frac{1}{3}$$

$$= \frac{4}{3} + \frac{1}{3}$$

$$= \frac{5}{3}$$

Explain the error in Simone's reasoning. Find the correct equivalent fraction. Describe another method you can use to change the mixed number $4\frac{1}{3}$ to a fraction.

On Saturday the owner of a pet store gave away a goldfish to every sixth customer and a clownfish to every ninth customer. A total of 130 customers came to the store on Saturday.

- What is the total number of fish the owner gave away? Show your work.
- How many additional customers would need to have come for 1 more goldfish to be given away? Explain your answer.

Enter your answers, your work, and your explanation in the space provided.



▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(·)	[·]
=	<	>	≠
\$	°	?	

Mr. Riley sells baskets. The table shows the number of baskets he sold in different years.

Baskets Sold in Different Years

Year	1	2	3
Number of Baskets Sold	972	2,907	?

Part A

Mr. Riley earns \$10 on each basket he sells. Using expanded form, represent the total amount, in dollars, he earned in year 2.

Drag and drop the numbers into the blanks to show the expanded form for the total amount, in dollars, he earned in year 2.

Year 2 × + × + ×

Part B

In Year 3, he earned 5 times the amount, in dollars, he earned for his baskets in Year 1.

Explain how to find the total amount, in dollars, Mr. Riley earned in Year 3. Include the total amount, in dollars, he earned in Year 3 in your explanation.

Enter your answer and your explanation in the space provided.



▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\frac{\square}{\square}$	(-)	[]
=	<	>	≠
\$	°	?	

Carl is training for a bike race.

- On Thursday, he rides his bike 7 miles.
- On Friday, he rides his bike 2 times the number of miles he rides on Thursday.
- On Saturday, he rides his bike 9 miles.

Part A

Explain how to find the total number of miles Carl rides his bike on Thursday, Friday, and Saturday. Include the total number of miles he rides in your explanation.

Enter your explanation in the space provided.



▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\square \square$	(.)	[.]
=	<	>	≠
\$	°	?	

Part B

Carl wants to ride his bike a total of 36 miles over the next three days. He will add the same number of miles to each distance from Part A.

Show or explain how to find the number of miles Carl should add to his distance each day.

- Include the number of miles added to his distance each day in your work or explanation.
- Include the new distance for each of the three days in your work or explanation.

Enter your explanation or your work in the space provided.



▼ Math symbols

+	-	×	÷
$\frac{\square}{\square}$	$\square \square$	(.)	[.]
=	<	>	≠
\$	°	?	