



Math

Spring 2018

Grade 5

Released Items

1.

VH174082

Compare pattern A to pattern B.

Pattern A:	3	5	7	9	11
Pattern B:	15	25	35	45	55

Which statement is true about pattern A and pattern B?

- A. Each term in pattern B is 5 times the corresponding term in pattern A.
- B. Each term in pattern B is 2 less than the corresponding term in pattern A.
- C. Each term in pattern B is 10 more than the corresponding term in pattern A.
- D. Each term in pattern B is 12 more than the corresponding term in pattern A.

2.

M01120

Which of these fractions correctly completes the equation?

$$\frac{3}{4} + \frac{11}{6} = \square$$

- A.  $\frac{14}{10}$
- B.  $\frac{17}{6}$
- C.  $\frac{31}{12}$
- D.  $\frac{62}{48}$

3.

M01511

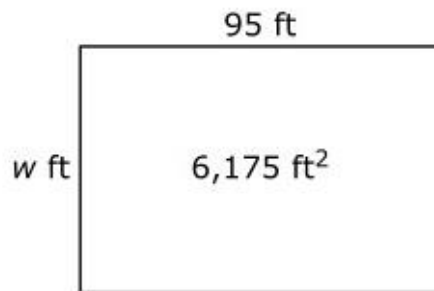
In which number does the digit 8 have a value that is 1,000 times greater than the digit 8 in the number 349,257.83?

- A. 291.308
- B. 6,815.4
- C. 18,390.65
- D. 906,784.51

4.

VH084810

The area of a floor is 6,175 square feet. The length of the floor is 95 feet. The width is  $w$  feet.



Write a multiplication equation that can be used to find the value of  $w$ .

Explain how to use an operation other than multiplication to find the value of  $w$ . Include the value of  $w$  in your explanation.

Enter your equation, your explanation, and your answer in the space provided.



▼ Math symbols

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

5.

VH120211

The height of a television screen is  $1\frac{1}{3}$  feet. The width of the television screen is  $2\frac{3}{8}$  feet.

What is the area, in square feet, of the television screen?

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



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

6.

M04017

A plumber worked at a house on two different days. On the first day, the plumber worked for  $\frac{5}{6}$  of an hour. On the second day, the plumber worked for  $\frac{1}{4}$  of an hour. What is the total amount of time, in hours, the plumber worked?

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



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

7.

VF908148

Ari attended music classes for 28 months. She attended 12 classes a month. Each class lasted 55 minutes.

**Part A**

What is the total number of minutes Ari attended music classes?

Enter your answer in the box.

**Part B**

Ari increases the number of music classes to 16 classes a month. Each class still lasts 55 minutes.

If she attends every music class for 12 months, what will be the total number of minutes Ari attends music classes after increasing the number of classes?

Enter your answer in the box.

8.

M00329P

Which shapes are parallelograms but are not rectangles?

Select the **two** correct shapes.

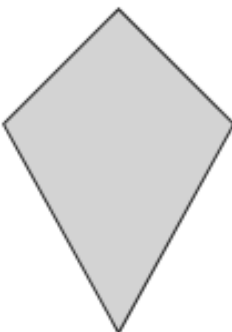
A.



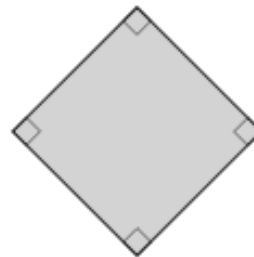
B.



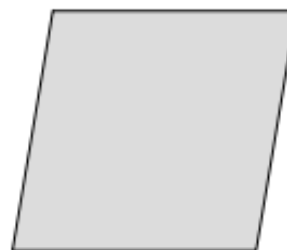
C.



D.



E.



9.

0110-M00573

**Part A**

Robin and Josie shared a bottle of green paint for an art project. Robin used  $\frac{3}{5}$  of the bottle of green paint. Together they used  $\frac{17}{20}$  of the bottle of green paint.

What fractional part of the bottle of green paint did Josie use?

Enter your answer as a fraction in the space provided. Enter **only** your answer.

**Part B**

Josie chose a bottle of red paint with some paint missing. During art class, she used  $\frac{1}{5}$  of the whole bottle of red paint. At the end of class,  $\frac{2}{3}$  of the whole bottle of red paint was left.

What fractional part of red paint was in the bottle at the beginning of art class?

Enter your answer as a fraction in the space provided. Enter **only** your answer.

10.

M00154

A class took a survey of various Internet Service Providers and recorded the downloading speed of their service, as shown in the table.

**Internet Speeds**

Internet Service Provider	Speed (Mbps)
A	2.532
B	2.435
C	2.564
D	2.439

Drag and drop the speeds and symbols into each empty box to create correct comparisons.

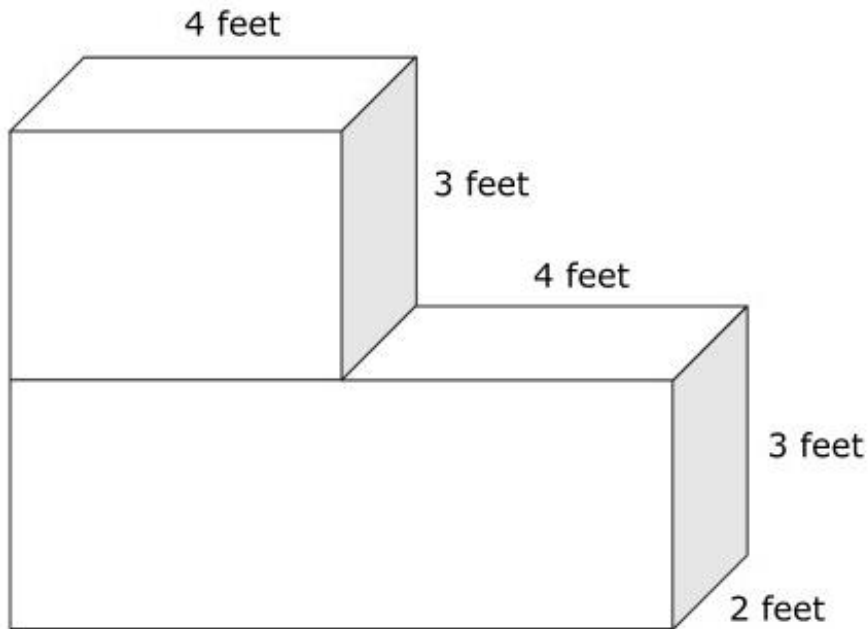
2.435 2.564 > = <

2.439   2.532

11.

4123-M03565

Cement was poured to make two rectangular prisms. The prisms were stacked, as shown.



**Part A**

What are the length, width, and height, in feet, of the smaller rectangular prism?

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

length =   
width =   
height =

	<input type="text" value="+"/>	<input type="text" value="-"/>	<input type="text" value="x"/>	<input type="text" value="÷"/>	<input type="text" value="1/2"/>	<input type="text" value="1/3"/>
	<input type="text" value="="/>	<input type="text" value="&lt;"/>	<input type="text" value="&gt;"/>	<input type="text" value="(.)"/>	<input type="text" value="[.]"/>	<input type="text" value="\$"/>

**Part B**

What is the total amount of cement, in cubic feet, used to make the two rectangular prisms?

Enter your answer in the box.



12.

M03345P

Which expression shows another way to represent  $\frac{1}{6}$ ?

- A.  $6 + 1$
- B.  $1 \times 6$
- C.  $6 - 1$
- D.  $1 \div 6$

13.

VH061948

Which expression is equivalent to  $\frac{3}{4} \times 12$ ?

- A.  $3 \div 12 \div 4$
- B.  $4 \div 12 \div 3$
- C.  $3 \times 12 \div 4$
- D.  $4 \times 12 \div 3$

14.

M03454

What is the value of the expression  $4 \times 455$ ?

Enter your answer in the box.

15.

VH141466

Roberto decorates rectangular signs. One sign is  $\frac{2}{3}$  foot long and  $\frac{1}{4}$  foot wide. Another sign is  $\frac{1}{2}$  foot long and  $\frac{1}{3}$  foot wide.

It takes Roberto  $\frac{3}{4}$  hour to decorate a 1-square-foot sign.

What is the total amount of time, in hours, it takes Roberto to decorate **both** signs? Show or explain each step you used to find your answer.

Enter your answer and your work or explanation in the space provided.



▼ Math symbols

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

16.

4072-M03328

**Part A**

What is  $8,000 \times 40$ ?

Enter your answer in the box.

**Part B**

Which value is **closest** to the product  $0.04 \times 8.01$ ?

- A. 0.032
- B. 0.32
- C. 3.2
- D. 32

17.

VF563097

Solve.

Enter your answer as a fraction in the boxes.

$$\frac{1}{3} - \frac{1}{5} =$$

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18.

4054-M03251

### Part A

An expression is shown.

$$\frac{257 + 18}{25}$$

Which expressions have the same value as the expression shown?

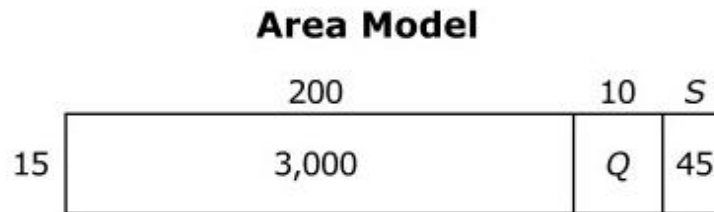
Select the **three** correct expressions.

- A.  $\frac{257-18}{25}$
- B.  $\frac{257}{25} + \frac{18}{25}$
- C.  $(18 + 257) \div 25$
- D.  $25 \div (257 + 18)$
- E.  $257 \div 25 + 18 \div 25$
- F.  $257 \div 25 - 18 \div 25$

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**Part B**

An area model for division is shown. It can be used to find the value of the quotient of  $3,195 \div 15$ .



- Determine the number that each letter represents in the area model.
- Explain completely how you determined the value of each letter.
- Explain how to determine the quotient of the division problem using the completed area model. Be sure to use the expression  $3,195 \div 15$  in your explanation.

Enter your answer and your explanations in the space provided.

**Math symbols**

19.

M500148

What number completes the equation shown?

$$7 \times 1.25 = ?$$

Enter your answer in the box.

20.

VH120213

Beth cooks 2 pounds of pasta. She serves  $\frac{1}{8}$  pound of pasta on each plate.

What is the total number of plates Beth serves with the 2 pounds of pasta?

Enter your answer in the box.

21.

VF563088

Solve.

Enter your answer in the box.

$$6,348 \div 12 =$$

22.

M01532

Of all the baseball caps in a store,  $\frac{2}{3}$  of the caps are blue. Of all the blue baseball caps,  $\frac{4}{7}$  are on sale.

What fraction of the baseball caps in the store are blue and on sale?

- A.  $\frac{6}{10}$
- B.  $\frac{8}{10}$
- C.  $\frac{6}{21}$
- D.  $\frac{8}{21}$

23.

VH129515

A rectangular prism has these dimensions.

- The area of the base of the prism is 360 square centimeters.
- The height of the prism is 19 centimeters.

What is the volume, in cubic centimeters, of the rectangular prism?

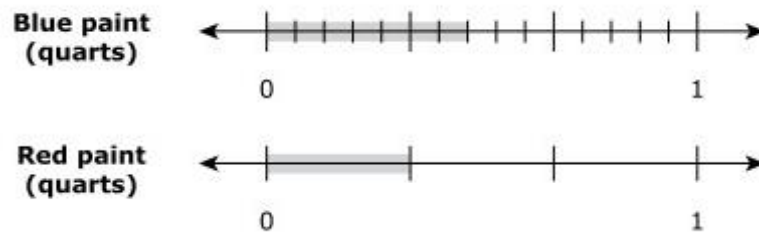
Enter your answer in the box.

24.

M500200

**Part A**

The number lines represent the amount of blue and red paint a student mixes together to make purple paint.



What is the total amount of purple paint, in quarts, the student makes?

- A.  $\frac{8}{15}$
- B.  $\frac{12}{15}$
- C.  $\frac{12}{18}$
- D.  $\frac{8}{18}$

(continues on next page)

**24. (continued from previous page)****M500200****Part B**

The student has  $\frac{2}{3}$  quart of yellow paint in a container. The student uses  $\frac{1}{2}$  quart of the yellow paint to make green paint.

- How many quarts of yellow paint remain in the container after the student makes the green paint?
- Explain how a number line could be used to find your answer.

Enter your answer and your explanation in the space provided.

**Math symbols****25.****M00319P**

Doug ate  $\frac{6}{8}$  cup of trail mix. Abby ate  $\frac{2}{3}$  as much trail mix as Doug. What fraction of a cup of trail mix did Abby eat?

- A.  $\frac{4}{5}$
- B.  $\frac{8}{11}$
- C.  $\frac{1}{12}$
- D.  $\frac{12}{24}$

26.

VH205872

Select the **three** statements that are correct.

- A. All squares are rhombuses because all squares have four equal sides.
- B. All parallelograms are quadrilaterals because all parallelograms have four sides.
- C. All rectangles are rhombuses because all rectangles have opposite sides that are equal.
- D. All trapezoids are parallelograms because all trapezoids have at least one pair of parallel sides.

Glossary Definition

a quadrilateral with at least one pair of parallel sides

- E. All squares are rectangles because all squares have vertices that are formed by perpendicular lines.

27.

M03203P

Which numbers or expressions have the same value as twenty-nine thousandths?

Select the **two** correct answers.

- A. 0.29
- B. 2.9
- C. 0.029
- D.  $2 \times \frac{1}{10} + 9 \times \frac{1}{1000}$
- E.  $2 \times \frac{1}{10} + 9 \times \frac{1}{100}$
- F.  $2 \times \frac{1}{100} + 9 \times \frac{1}{1000}$



28.

0631-M20652

Fruit punch is made for a party by mixing  $2\frac{1}{2}$  quarts of apple juice,  $1\frac{1}{2}$  quarts of cranberry juice, and 3 quarts of grape juice. Of the punch made, 6 quarts are poured into a jug to serve to the guests.

**Part A**

Which amounts represent the part of the punch that was **not** poured into the jug?

Select the **three** correct answers.

- A.  $\frac{1}{32}$  ounce
- B.  $\frac{1}{4}$  gallon
- C.  $\frac{1}{2}$  pint
- D. 2 pints
- E. 4 gallons
- F. 32 ounces

**Part B**

The guests drink 18 cups of punch from the jug. How many pints of punch will be left in the jug?

- A. 3
- B. 6
- C. 12
- D. 15