

Name: _____



New York State Testing Program

2017 Common Core Mathematics Test

Grade **5**

May 2–4, 2017

Released Questions

Grade 5 Mathematics Reference Sheet

CONVERSIONS

1 mile = 5,280 feet
1 mile = 1,760 yards

1 pound = 16 ounces
1 ton = 2,000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 liter = 1,000 cubic centimeters

FORMULAS

Right Rectangular Prism

$$V = Bh \text{ or } V = lwh$$

- 1 What part of the expression below should be calculated first?

$$8 + \{22 \times [15 + (14 \times 2)]\}$$

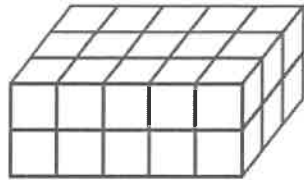
- A $8 + 22$
B 22×15
C 14×2
D $15 + 14$
- 2 Tara baked $6\frac{1}{2}$ dozen cookies. She sold $3\frac{2}{6}$ dozen of the cookies she made. How many dozens of cookies does Tara have remaining?

- A $3\frac{1}{6}$
B $3\frac{1}{4}$
C $3\frac{3}{8}$
D $3\frac{5}{6}$

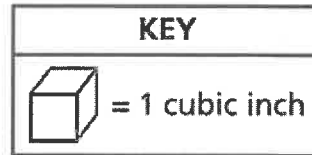
GO ON

3

Prism A is shown below. The height of Prism B is 2 times the height of Prism A. The length and width of both prisms are the same.



Prism A



What is the volume, in cubic inches, of Prism B?

- A 20
- B 44
- C 45
- D 60

4

Which decimal is equivalent to $\frac{41}{100}$?

- A 41.0
- B 4.10
- C 0.41
- D 0.041

- 6 What number is equivalent to the expanded form shown below?

$$(2 \times 100) + (3 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(3 \times \frac{1}{1,000}\right)$$

- A 203.043
B 203.403
C 230.430
D 230.403
- 7 Which phrase is represented by the expression $5 \times (36 + 9)$?
- A the product of 36 and 5, increased by 9
B the product of 36 and 9, multiplied by 5
C the sum of 36 and 9, multiplied by 5
D the sum of 36 and 5, increased by 9

GO ON

- 8 The value of the digit in the hundreds place in the number 653,841 is $\frac{1}{10}$ the value of the digit in the thousands place in which number?

- A 748,917
- B 749,817
- C 784,917
- D 797,481

- 9 The table below lists the number of layers of centimeter cubes, along with the number of cubes in each layer, in each of four rectangular prisms.

LAYERS OF CUBES IN RECTANGULAR PRISMS

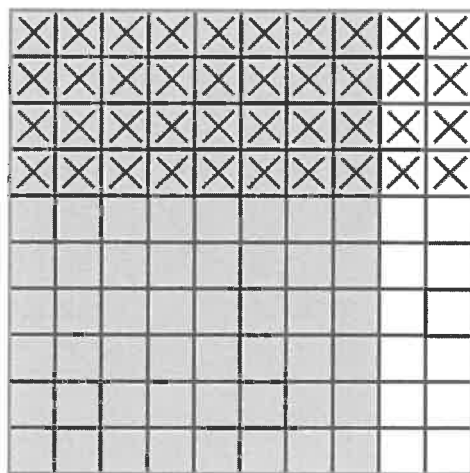
Prism	Number of Layers	Number of Cubes in Each Layer
R	3	8
S	5	5
T	6	5
U	7	4

Which rectangular prism has the greatest volume?

- A Prism R
- B Prism S
- C Prism T
- D Prism U

12

The decimal grid shown below is shaded and marked with Xs to model an expression.



Which expression could be modeled by this decimal grid?

- A 0.08×0.04
- B 0.08×0.40
- C 0.80×0.04
- D 0.80×0.40

13

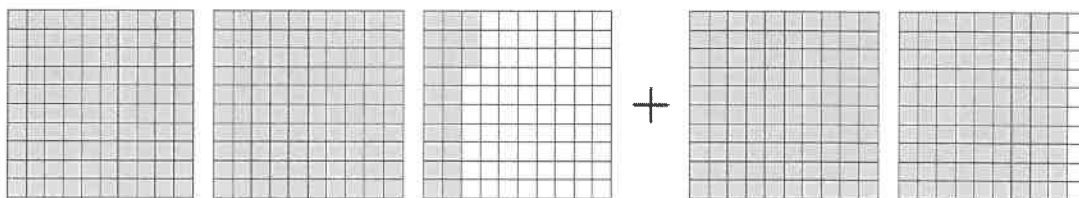
What is the value of the expression $\frac{1}{5} \div 4$?

- A $\frac{20}{1}$
- B $\frac{5}{4}$
- C $\frac{4}{5}$
- D $\frac{1}{20}$

- 14 Mia buys 5 yards of ribbon to make bracelets. She needs 18 inches of ribbon to make 1 bracelet. How many bracelets can Mia make if she uses all the ribbon she buys?

- A 90
- B 10
- C 3
- D 2

- 15 The decimal grids below are shaded to model an expression.



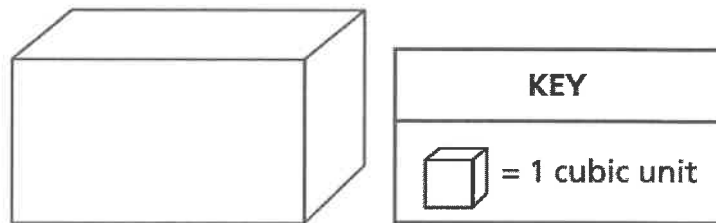
What is the value of the expression modeled by the decimal grids?

- A 3.29
- B 3.32
- C 4.10
- D 4.13

16 Which expression is equivalent to $\frac{3}{5}$?

- A 3×5
- B $3 + 5$
- C $3 \div 5$
- D $3 - 5$

17 Tyler completely filled the box shown below with unit cubes, with no gaps or overlaps.



He then counted the number of cubes that he used to fill the box. What type of measurement is represented by the number of cubes Tyler counted?

- A area
- B height
- C volume
- D perimeter

21 Each student in a class plays one of three sports: soccer, volleyball, or basketball.

- $\frac{3}{5}$ of the number of students play soccer
- $\frac{1}{4}$ of the number of students play volleyball

What fraction of the number of students play basketball?

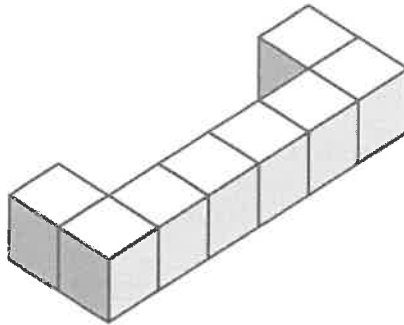
- A $\frac{3}{20}$
- B $\frac{4}{9}$
- C $\frac{5}{9}$
- D $\frac{17}{20}$

22 What is the value of 0.1561 rounded to the nearest tenth?

- A 0.15
- B 0.16
- C 0.1
- D 0.2

STOP

- 23 The figure below is made of unit cubes.



How many unit cubes need to be added to the figure so that it will have a total volume of 12 cubic units?

- A 1
B 2
C 4
D 8
- 24 The operation symbol and the exponent are missing in the equation shown below.

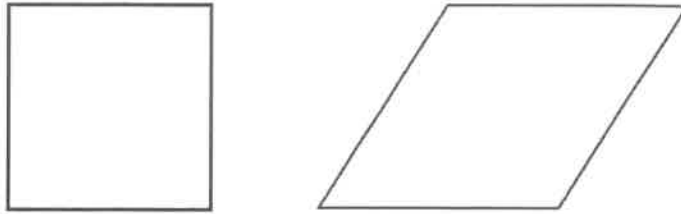
$$7,320 \square 10 \square = 0.07320$$

Which operation symbol and exponent should go in the boxes to make the equation true?

- A \times and 2
B \div and 2
C \times and 5
D \div and 5

GO ON

- 25 A square and a rhombus are shown below.



Which attribute is true of one of the shapes but not of both?

- A All angles are right angles.
 - B All sides are the same length.
 - C There are two sets of equal angles.
 - D There are two sets of parallel sides.
- 26 Point K is shown on the number line below.



Which number sentence best describes the value represented by point K?

- A $K > 0.13$
- B $K < 0.13$
- C $K = 0.15$
- D $K = 0.35$

- 27 The table below shows the distance some players hit a softball.

SOFTBALL DISTANCES

Name	Distance
Amalia	36 inches
Nick	6 feet
Lila	108 inches

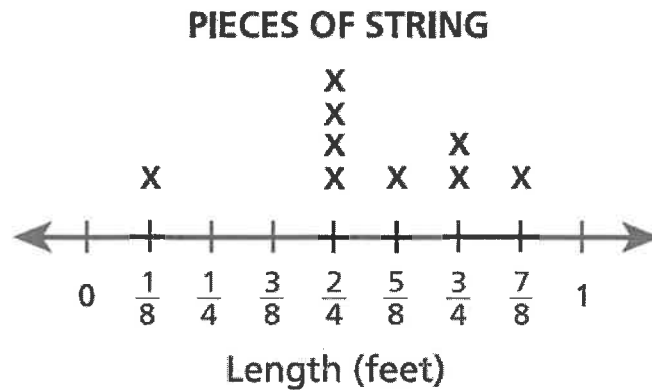
Pablo hit the softball 2 yards. Which player or players hit the softball the same distance as Pablo?

- A Amalia only
- B Nick only
- C Lila only
- D Amalia and Nick

GO ON

28

The line plot below shows the lengths of all the pieces of string Emma used for an art project. She cut all these pieces from one original piece of string.



Emma had 1 foot of string left over. How long, in feet, was the original piece of string?

- A $1\frac{6}{8}$
- B $1\frac{7}{8}$
- C $3\frac{7}{8}$
- D $6\frac{1}{8}$

29

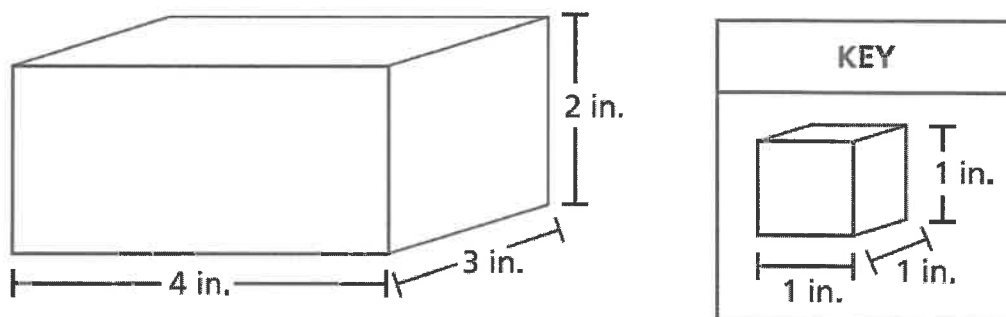
For which values of k would the product of $\frac{k}{3} \times 12$ be greater than 12?

- A for any value of k less than 1 but greater than 0
- B for any value of k less than 3 but greater than 1
- C for any value of k equal to 3
- D for any value of k greater than 3

- 32 Each day last week, Ms. Wilson walked $\frac{3}{4}$ mile. What is the total distance, in miles, that Ms. Wilson walked in 4 days?

A 1
B 2
C 3
D 4

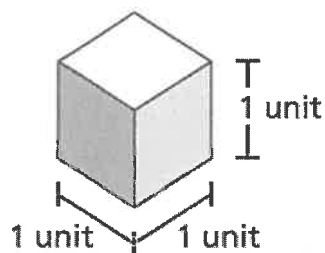
- 33 A right rectangular prism is shown below. The volume of the prism is determined by using unit cubes.



Which statement describes how to determine the volume of the prism in cubic units?

- A Add the length, width, and height: $4 + 3 + 2$.
- B Add the length and width and then multiply by the height: $(4 + 3) \times 2$.
- C Determine the area of the base and add the number of layers of cubes: $(4 \times 3) + 2$.
- D Determine the area of the base and multiply by the number of layers of cubes: $(4 \times 3) \times 2$.

- 36 What is the volume of the cube shown below?



- A 1 cubic unit
B 3 cubic units
C 4 cubic units
D 6 cubic units
- 37 During a hike, 3 friends equally shared $\frac{1}{2}$ pound of trail mix. What amount of trail mix, in pounds, did each friend receive?
- A $\frac{1}{6}$
B $\frac{3}{2}$
C $3\frac{1}{2}$
D 6

41 Which expression has a value greater than $\frac{1}{2}$?

A $\frac{1}{2} \times \frac{4}{5}$

B $\frac{1}{2} \times \frac{4}{4}$

C $\frac{1}{2} \times \frac{5}{5}$

D $\frac{1}{2} \times \frac{5}{4}$

42 A science teacher has 0.4 liter of seawater. She gives each of her 22 students a container and a 5-milliliter spoon. She then asks her students to put two spoonfuls of seawater into their containers. How many milliliters of seawater will be left after all 22 students have filled their containers?

A 70

B 180

C 290

D 780

- 43 What is the value of the expression below?

$$\frac{1}{25} \div 74$$

- A $\frac{1}{1,850}$
- B 1,850
- C $\frac{25}{74}$
- D $2\frac{24}{25}$
- 44 Which phrase best describes a figure with dimensions of 2 units by 2 units by 4 units and a volume of 16 cubic units?
- A a solid figure that can be filled with 16 cubes that each measure 1 cubic unit
- B a solid figure that can be filled with 1 cube that measures 16 units on each edge
- C a solid figure that can be covered with 16 squares that each measure 1 square unit
- D a solid figure that can be covered with 1 square that measures 16 units on each edge

GO ON

45

Susan determined that the expression below is equal to 7.59.

$$15.91 - 8.32$$

Which expression can Susan use to check her answer?

- A $8.32 - 7.59$
- B $8.32 + 7.59$
- C $15.91 + 8.32$
- D $15.91 + 7.59$

STOP

46

Harry's fitness trainer recommends that Harry drink 8 fluid ounces of water 8 times a day. Harry has a water bottle that holds $1\frac{1}{4}$ pints of water when filled. Today, he has filled the water bottle three times and drank all of the water each time. Harry claims that he drank the total amount of water recommended by his fitness trainer. Explain why Harry's claim is not true.

Answer

GO ON

- 47 Rodney bought a 25-pound bag of dog food. His dog ate $10\frac{2}{5}$ pounds of the food in the first month and $10\frac{4}{5}$ pounds of the food in the second month. How much dog food, in pounds, was remaining in the bag at the end of the two months?

Show your work.

Answer _____ pounds

48

Sixteen students in a drama club want to attend a play. The ticket price is \$35 for each student, and the transportation and meals for everyone will cost \$960.

To pay for the trip, the students design sweatshirts to sell for a profit of \$19 per sweatshirt. If each student sells the same number of sweatshirts, how many sweatshirts must each student sell so that there will be enough money to pay for the entire cost of the trip?

Show your work.

Answer _____ sweatshirts

GO ON

49

Jessie set up a lemonade stand for three days.

- On Saturday, she sold $10\frac{2}{3}$ gallons of lemonade.
- On Sunday, she sold $3\frac{1}{3}$ gallons more than she sold on Saturday.
- On Monday, she sold $2\frac{2}{3}$ gallons less than she sold on Sunday.

How many gallons of lemonade did Jessie sell on Monday?

Show your work.

Answer _____ gallons

GO ON

50

Three students performed a science experiment using salt and a beaker. The beaker contained 530.2 grams of salt before the experiment started. During the experiment, each of the 3 students removed 47.36 grams of salt from the beaker.

How much salt, in grams, was left in the beaker at the end of the experiment?

Show your work.

Answer _____ grams

GO ON

51

The dimensions of Mr. Tai's living room are 10 feet \times 18 feet \times 8 feet, and the dimensions of his family room are 14 feet \times 20 feet \times 8 feet. What is the total volume, in cubic feet, of the two rooms?

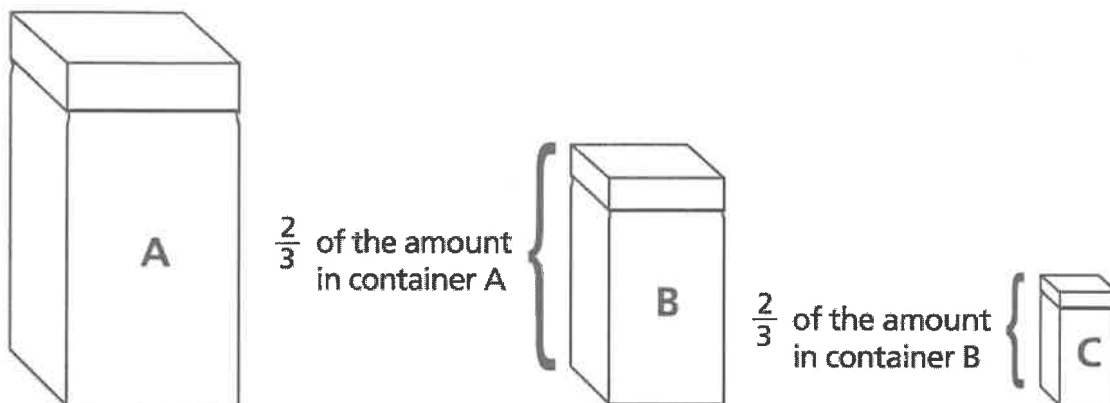
Show your work.

Answer _____ cubic feet

GO ON

52

The diagram below shows a set of three different-sized containers Tanner used for storing dry goods. The largest container held $12\frac{3}{4}$ cups of dry goods.



What was the total amount, in cups, of dry goods that Tanner could store in all three containers?

Show your work.

Answer _____ cups

GO ON

53

A juice company produced 8,064 cartons of juice in 21 days. Each day, they produced the same number of cartons and delivered those cartons to 16 area coffee shops. The cartons were delivered in cases of six cartons per case, and each coffee shop received an equal number of cases in each delivery. How many cases were delivered to each coffee shop each day?

Show your work.

Answer _____ cases

GO ON

54

For 4 weeks in June, Cameron biked $3\frac{1}{4}$ miles each week and swam $2\frac{1}{2}$ miles each week. For 3 weeks in July, he biked $4\frac{3}{4}$ miles each week and swam $3\frac{1}{2}$ miles each week.

How much greater was the total distance Cameron biked and swam in July compared to the total distance he biked and swam in June?

Show your work.

Answer _____ mile(s)

GO ON

55

The table below shows part of the operating budget of a small dairy farm for last year. The only expense not listed in the table is maintenance.

**LAST YEAR'S
OPERATING BUDGET**

Expense	Fraction of Budget
Food	$\frac{1}{3}$
Housing	$\frac{1}{3}$
Medical Care	$\frac{1}{4}$

This year, the managers of the farm will change the fraction of the budget for housing to $\frac{1}{8}$ but will leave the fraction of the budget for food and medical care the same. Again, the remaining portion of the budget will be for maintenance expenses. What is the difference between the fraction of the budget for maintenance this year and last year?

Show your work.

Answer _____

STOP