

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

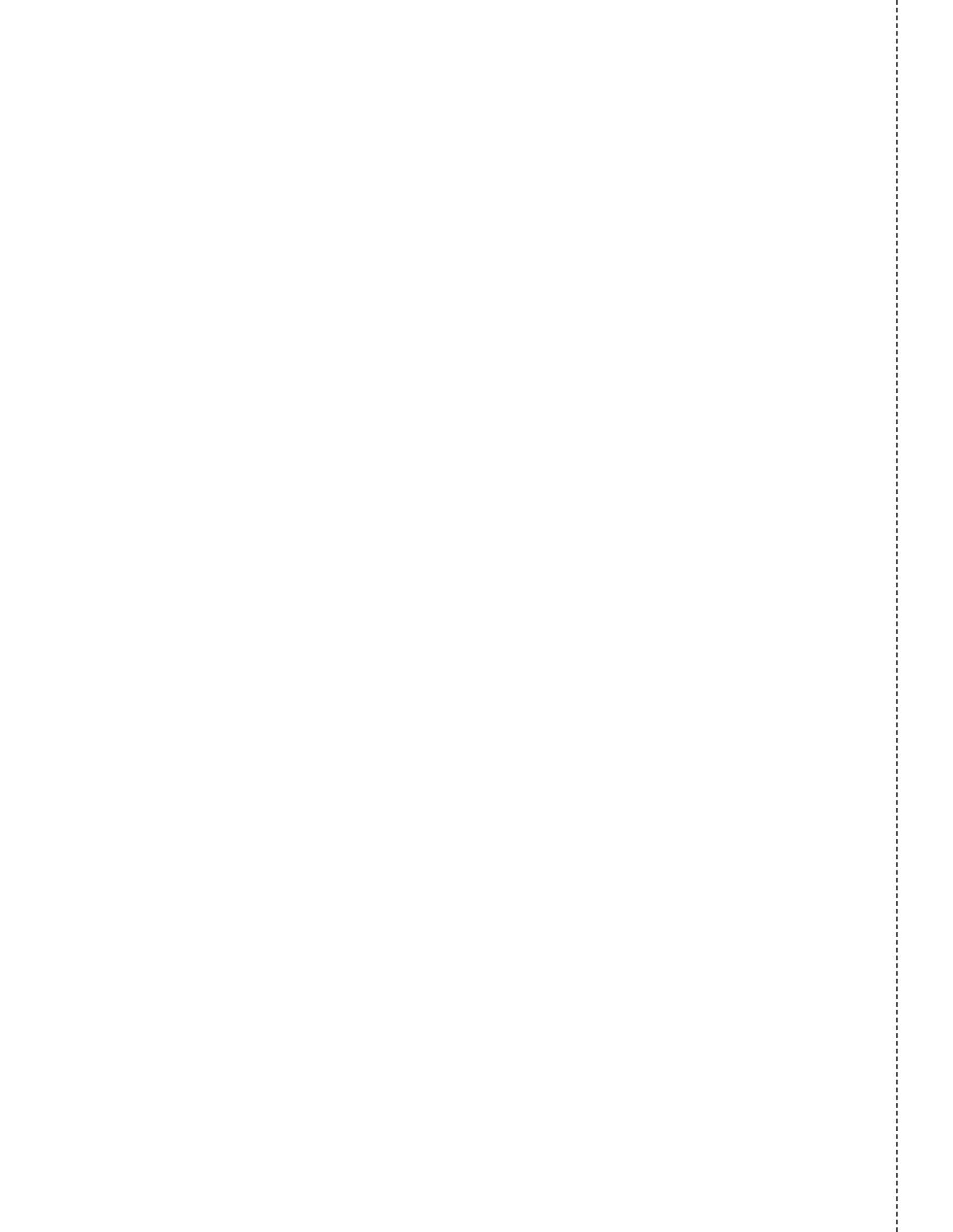
1 gallon = 4 quarts

1 liter = 1,000 cubic centimeters

FORMULAS

Right Rectangular Prism

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



Book 1



TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before choosing your response.
- You have been provided with mathematics tools (a ruler and a protractor) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference sheet whenever you think they will help you to answer the question.

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

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

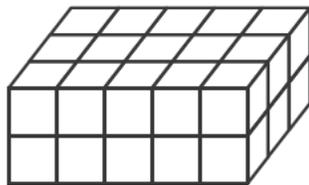
- A $8 + 22$
- B 22×15
- C 14×2
- D $15 + 14$

- 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?

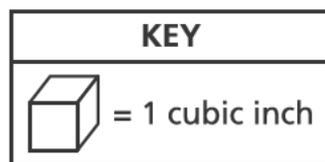
- A $3\frac{1}{6}$
- B $3\frac{1}{4}$
- C $3\frac{3}{8}$
- D $3\frac{5}{6}$

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.

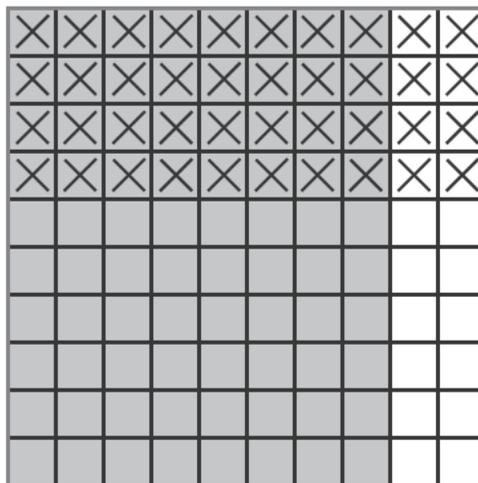
LAYERS OF CUBES IN RECTANGULAR PRISMS

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.



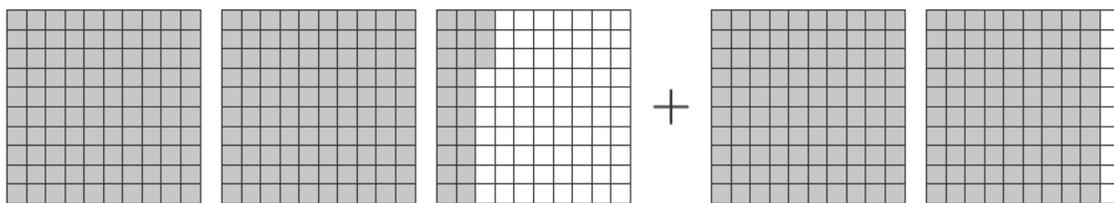
Which expression could be modeled by this decimal grid?

- 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.



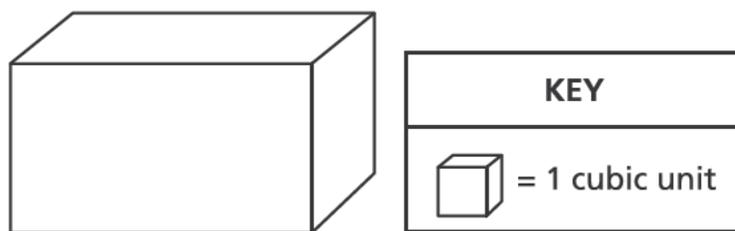
What is the value of the expression modeled by the decimal grids?

- 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

Grade 5
2017 Common Core
Mathematics Test
Book 1
May 2–4, 2017

Name: _____



New York State Testing Program

2017 Common Core Mathematics Test Book 2

Grade 5

May 2–4, 2017

Released Questions

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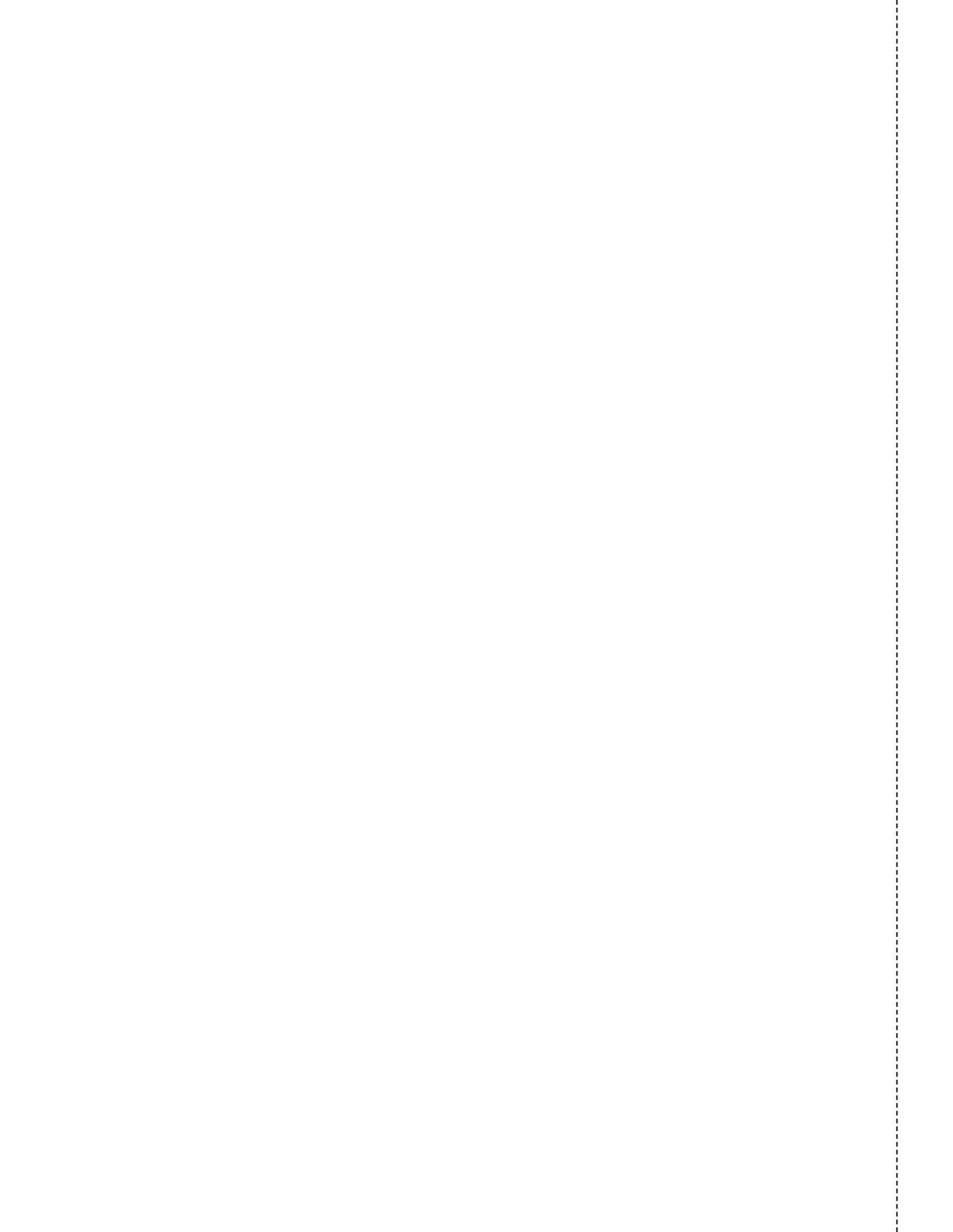
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FORMULAS

Right Rectangular Prism

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Book 2

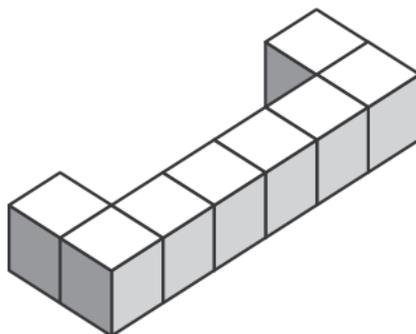


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- 23 The figure below is made of unit cubes.



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.

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

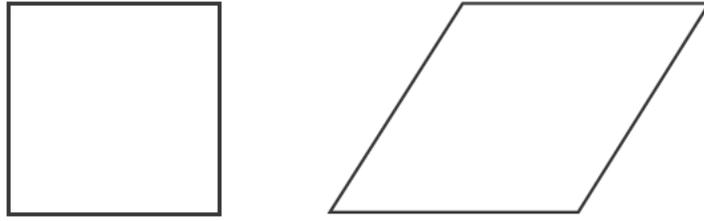
Which operation symbol and exponent should go in the boxes to make the equation true?

- 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 $K = 0.35$

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

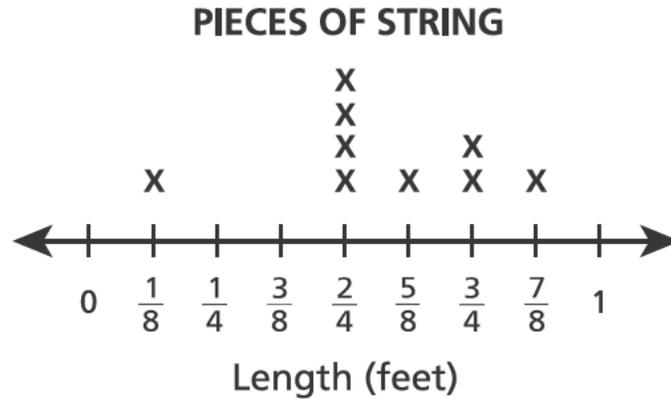
SOFTBALL DISTANCES

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

- 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.



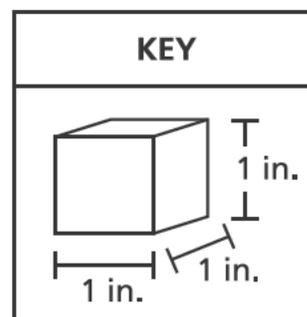
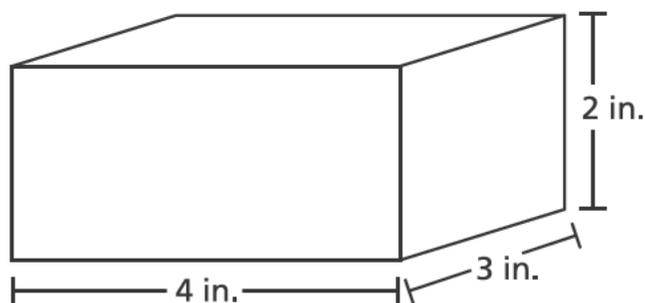
Emma had 1 foot of string left over. How long, in feet, was the original piece of string?

- 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

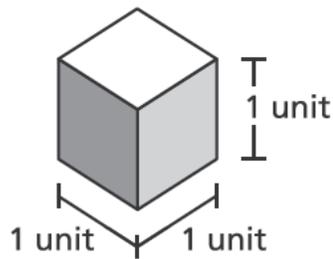
- 33 A right rectangular prism is shown below. The volume of the prism is determined by using unit cubes.



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 $15.91 + 7.59$