



Georgia
Milestones
Practice Assessment

**PRACTICE
MATHEMATICS
TEST**

6TH GRADE

DO NOT WRITE IN TEST BOOKLET

Below are the formulas you may find useful as you take the test. However, you may find that you do not need to use all of the formulas. You may refer to this formula sheet as often as needed.

Perimeter

The perimeter of a polygon is equal to the sum of the lengths of its sides.

Area

Triangle $A = \frac{1}{2}bh$

Rectangle $A = bh$ or $A = lw$

Surface Area

The total area of the 2-dimensional surfaces that make up a 3-dimensional object.

Volume of Right Rectangular Prism

$$V = (\text{length})(\text{width})(\text{height})$$

or

$$V = (\text{area of base})(\text{height})$$

Mean

$$\bar{x} = \frac{x_1 + x_2 + x_3 + \dots + x_n}{n}$$

Interquartile Range

$$IQR = Q_3 - Q_1$$

The difference between the first quartile and third quartile of a set of data.



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Unit 1: Number System Fluency

Choose the best answer.

1. Represent the greatest common factor of 36 and 8 using the distributive property.

$$36 + 8 =$$

- A $4 \times (9 + 2)$ C $8 \times (5+2)$
B $2 \times (18+4)$ D $11 \times (3+1)$
2. Javier's Bakery sells donuts in packages of 3 and cookies in packages of 5. Today the bakery sold the same number of donuts and cookies. What is the smallest number of donuts that the bakery could have sold?
- A 5 C 15
B 30 D 6
3. During the winter months, Starbucks has a sale every 4 days and McCafe has a sale every 5 days. If stores had a sale today, when is the next time both stores will have sales on the same day?
- A 1 day C 40 days
B 8 days D 20 days
4. Factors shared by two or more whole numbers are called:
- A prime numbers C fractions
B common factors D operations
5. Sue has 18 CDs and 30 DVDs. He wants to place them onto the greatest number of shelves so that each shelf has the same number of CDs and the same number of DVDs. How many shelves will he use?
- A 2 C 3
B 5 D 6

6. Meg's hourly salary is \$7.75. Last week she worked a 30-hour week. How much did she earn?

A \$37.75 C \$232.50
B \$180 D \$275

7. Bob has \$25 to spend on the school field trip. After paying \$14.00 for the cost of the field trip and \$5.25 for lunch, how much will he have left?

A \$5.75 C \$12.00
B \$12.75 D \$18.50

8. Multiply $3\frac{1}{3} \cdot \frac{3}{8}$.

A $\frac{1}{8}$ C 4.12
B 1.25 D $4\frac{3}{11}$

9. Kaci works at a bread store. She has $8\frac{1}{4}$ pounds of dough. She is making .75 pound loaves. How many loaves will she be able to make?

A 22 loaves
B 11 loaves
C 2.75 loaves
D .75 loaves

10. If the GCF of two numbers is 9, why must both numbers be a multiple of 9?
EXPLAIN.





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Unit 2: Rate, Ratio and Proportional Reasoning

Choose the best answer.

1. Sam reads at a rate of 160 words per minute. Who reads at the same rate as Sam?

Reader	Rate
A. Molly	240 words per 2 min
B. Braxter	480 words per 3 min
C. Sarah	560 words per 4 min
D. Damian	320 words per 2.5 min

2. A 8-ounce bag of chocolate costs \$4.08. An 10-ounce bag of chocolate costs \$4.10. Which is the better deal?
- A 8 ounces C Neither
B They are equivalent D 10 ounce

Use the following information for problems 3–5.

In 2015, the population of the United States was about 320 million people.

3. About 22% of the total United States population is 14 years old or younger. About how many million people is that?
- A 10 C 70
B 250 D 45
4. About 7 out of 10 Americans live in urban areas. How many Americans live in or near large cities?
- A 224 million C 96 million
B 32 million D 10 million

5. Females make up about 51% of the total population of the United States. About how many males live here?

A 163 million C 157 million
B 145 million D 173 million

6. Which does not describe a ratio relationship between two quantities?

A 3 to 4 C \$5 per slice
B 2:1 D \$2.25

7. Which statement is false:

A A ratio is a comparison of two quantities that uses division
B A rate compares two quantities that have different units of measure.
C Equivalent ratios are ratios that name a different, unequal ratio.
D When the comparison is to one unit, the rate is called a unit rate.

8. Find the missing value in the proportion:

$$\frac{4}{3} = \frac{z}{24}$$

A 32 C 8
B 72 D 18

9. Given 1 in = 2.54 cm, how many centimeters are in 5 inches?

A 7.62 cm C 5.08 cm
B 12.7 cm D 1.97 cm

10. A sign is 6 feet long and 4 feet high. Part of it is a red rectangle that is 3 feet by 2 feet. What percent of the sign is red? **EXPLAIN.**





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Unit 3/4: Expressions, Equations and Inequalities

Choose the best answer.

- The phrase: "the product of 4 and x " represents which algebraic expression?
 A $4 \div x$ C $4 + x$
 B $4x$ D $4 - x$
- Evaluate the expression $6 \div 2 + h$, using the order of operations, when $h = 1$
 A 2 C 4
 B 3 D 5
- In 1996 the population of Atlanta, Georgia was 400,727. In 2013, the population had grown by 47,114 people. What was the population of Atlanta, Georgia in 2013?
 A 447,841 C 353,613
 B 400,114 D 47,727
- Write an expression for the table:

Players	14	21	28	<input type="checkbox"/>
Team	2	3	4	n

 A $14 \div n$ C $5 + n$
 B $7n$ D $35 - n$
- Taylor bought some jeans on sale. The number of jeans she bought is one-fifth the amount of money she spent. She bought 6 jeans. Find the amount of money Taylor spent.
 A \$120 C \$56
 B \$83 D \$30

- Which expression is equivalent to $2(t + 4)$?
 A $t + 8$ C $8 + 2t$
 B $2t + 4$ D $t + 4$

- What inequality does this number line show?



- A $n > 5$ C $5 \leq n$
 B $n < 5$ D $5 \geq n$

- At a frozen yogurt counter, the weight of a customer's order determines the price.

w = the weight
 p = the price

Which of the variables is independent and which is dependent?

- A w is independent, p is dependent
 B p is independent, w is dependent
 C both variables are independent
 D both variables are dependent

- Solve for b . $b + 7 > 8$

- A $b > 15$ C $b < 15$
 B $b > 1$ D $b < 1$

- A movie club sells DVDs for \$16 each. The club charges a shipping and handling charge of \$4 for an entire order. Write an expression to show the total cost if you order n DVDs.

EXPLAIN.



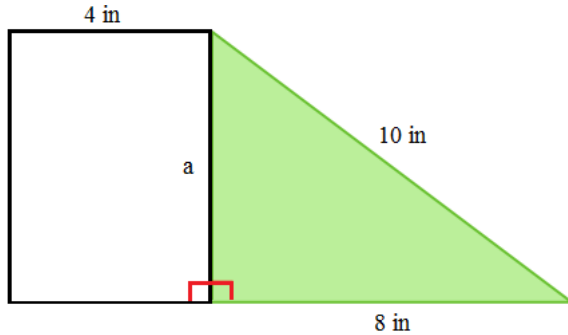


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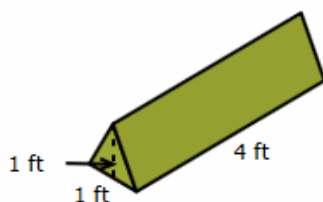
Unit 5: Area, Volume and Graphs

Choose the best answer.

Use the figure below for questions 1–3.



- If the area of the shaded triangle is 24 in^2 what is the value of a ?
 A Not enough info C 6
 B 8 D 4
- What is the area of the entire combined geometric figure?
 A Not enough info C 24 in^2
 B 48 in^2 D 56 in^2
- Lily is building a fence for her dog. She is trying to determine which figure would give her the largest area while keeping the cost of building materials the lowest. Which shape fence would be the cheapest to build based on the perimeter?
 A They are the same C Triangle
 B Square D Rectangle
- What is the volume of a cube with a side length of 5.5 inches?
 A 166.375 in^3 C 166.375 in^2
 B 30.25 in^2 D 30.25 in^3
- What is the volume of this triangular prism?



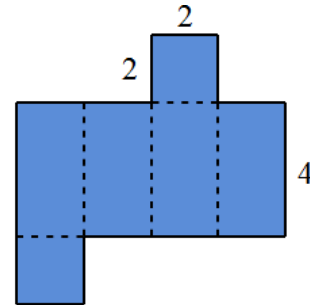
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| A 4 ft^3 | C 2 ft^3 |
| B 8 ft^3 | D 6 ft^3 |

Use the information below for questions 6-7.

Point Q = (2, 1); Point U = (2, -4.5)

- What quadrant is point Q in?
 A First C Third
 B Second D Fourth
- Find the distance between point Q and point U.
 A 4.5 C 0
 B 2 D 5.5

Use this net for questions 8-9:



- Which geometric shape will this net make?
 A Triangular Prism C Cube
 B Rectangular Prism D Cone
- What is the surface area of the geometric figure formed from the net above?
 A 16 units^2 C 40 units^2
 B 32 units^3 D 64 units^3
- There are 25 boxes of cards packed in a case so that they fit perfectly. Each box measures 1 in^3 . What are all the possible dimensions of the case?

EXPLAIN.





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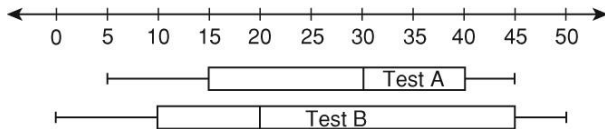
Unit 6: Statistics

Choose the best answer.

- Jon questioned the first 22 students to arrive at the school. What type of sampling technique does this represent?

A observational	C biased
B representative	D random

Use the box-and-whisker plots for 2–5.



- Which test has the most variation?

A Not enough info	C Test B
B They are equal	D Test A
- What is the interquartile range of test A?

A 35	C 40
B 25	D 45
- What is the median of test A?

A 0	C 30
B 20	D 40
- What is the range of test B?

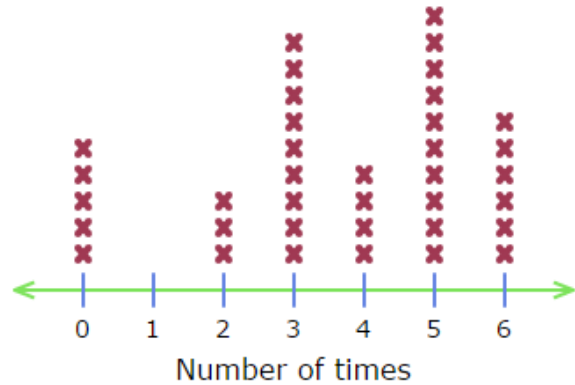
A 35	C 25
B 50	D 40
- What is not true regarding a bar graph and a histogram?

A bar graphs are usually used to display "categorical data"	C The way the graphs are drawn—histograms are never drawn with spaces between the bars
B histograms are usually used to present "continuous data"	D it is more appropriate to talk about the skewness of a bar graph than a histogram

Use the line plot for questions 7-9.

A school interested in expanding its library counted the number of times that students checked out book in a term.

Books checked out in a term



- How many students checked out books more than 3 times?

A 20	C 8
B 29	D 9
- What was the sample size?

A 6	C 10
B 7	D 37
- Rounded to the nearest tenth, what was the mean number of times books were checked out during the term?

A 1.1	C 3.6
B 2.5	D 5.4
- Last year, the school made \$800 at its cookie sale. This year it made \$1,200. Suppose you show these amounts on a bar graph, but you start the vertical scale at \$600 instead of \$0. Exactly how many times taller will the second bar be than the first? How might this be misleading? **EXPLAIN.**





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Unit 7: Rational Exploration: Numbers and their Opposites

Choose the best answer.

- Find the difference $1 - (-10)$.

A -11	C 9
B -9	D 11
- Order the integers from greatest to least: 4, -3, 0, 8, -5.

A -5, -3, 0, 4, 8	
B -3, -5, 0, 4, 8	
C 8, 4, 0, -3, -5	
D 0, -3, 4, -5, 8	
- Find the absolute value $|-4|$.

A -4	C -2
B 0	D 4
- At 7 A.M. the temperature was -2°C . In the afternoon, the temperature was 11°C . What was the change of temperature during the day?

A -13°C	C 11°C
B -6°C	D 13°C

5. What inequality does this number line show?



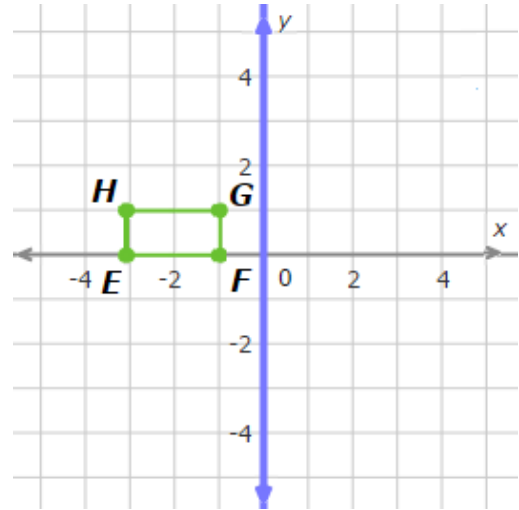
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| A $x > 2$ | C $x \geq 2$ |
| B $2 > x$ | D $x \leq 2$ |
- Which point is in Quadrant IV?

A (3, -1)	C (-2, -3)
B (-5, 2)	D (5, 3)
 - Which sign makes the statement true?

$$-1\frac{1}{5} \square -3\frac{2}{5}$$

A $>$	C \geq
B \leq	D $=$

Use the graph below for questions 8-9.



- Which set of coordinates represent the rectangle $EFGH$ after a reflection over the x-axis?

A $(-3, 0); (-1, 0); (-1, 1); (-3, 1)$	
B $(-3, 0); (-1, 0); (-1, -1); (-3, -1)$	
C $(3, 0); (2, 0); (-1, 1); (-3, 1)$	
D $(3, 0); (1, 0); (1, 1); (3, 1)$	
- What is the horizontal distance between the coordinates F $(-1, 0)$ and E $(-3, 0)$?

A 2	C 0
B 4	D -2

Constructed Response

10. A building has 4 floors of offices above ground and 5 floors of storage below ground. A worker goes up to the third floor to get some file folders and takes them down to a storage room on the fourth underground level to have the files stored.

Part A: How might a number line help you solve this problem?

Part B: Should 0 be on your number line? Explain

Part C: Sketch a number line. Graph each integer for the 3rd floor, storage room, and main lobby and label the points.

Part D: How many floors does she have to go to get back to the main lobby on the first floor?





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