

Student Name _____

Teacher Name _____

School _____

System _____

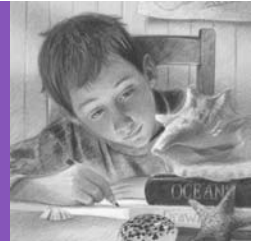


TENNESSEE

Tennessee Comprehensive Assessment Program
Achievement Test ~ Grade 6
Item Sampler
Version B



Mathematics



Reporting Category: 1 Mathematical Processes

Performance Indicator: 6.1.1 Make conjectures and predictions based on data.

- 1** The table below shows the number of students enrolled during each of four years at Pleasant View School.

**Pleasant View
School Enrollment**

Year	Number of Students
1	601
2	618
3	641
4	662

The trend in the number of students enrolled continues as shown. Which is the best prediction of the number of students who will be enrolled at this school during Year 8?

- A** 160
- B** 700
- C** 740
- D** 1,320

2 Dan worked as a volunteer for a total of 103 hours in 21 days. He worked about the same number of hours each day. Which is the best estimate of the number of hours Dan worked as a volunteer each day?

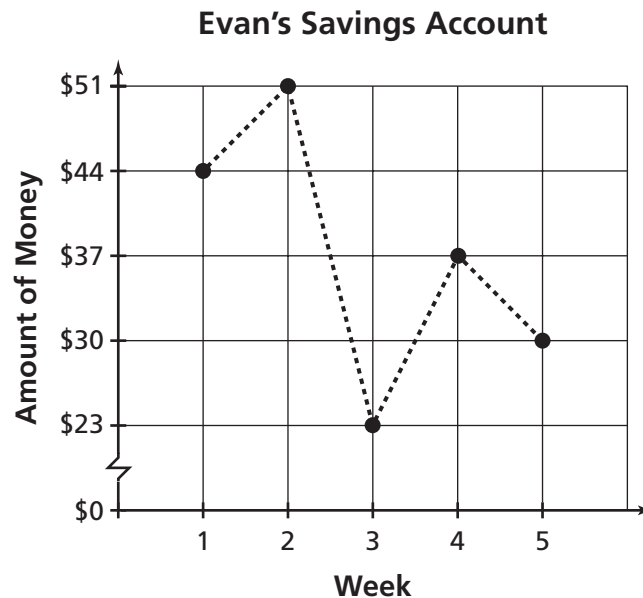
F 3

G 4

H 5

J 6

- 3** The graph below shows the amount of money in Evan's savings account over a five week period.



Which integer best describes the change in the amount of money in Evan's account between Week 2 and Week 3?

- A** -74
- B** -28
- C** 28
- D** 74

Reporting Category: 1 Mathematical Processes

Performance Indicator: 6.1.4 Select the representation that models one of the arithmetic properties (commutative, associative, or distributive).

4 Which equation correctly represents the associative property?

F $8(2 + 3) = 8 \times 2 + 8 \times 3$

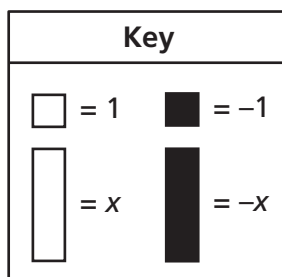
G $8 + 2 + 3 = 8 + 3 + 2$

H $8 + (2 + 3) = 4 + 4 + 2 + 3$

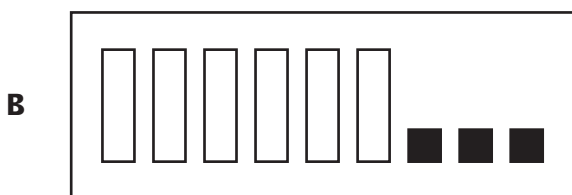
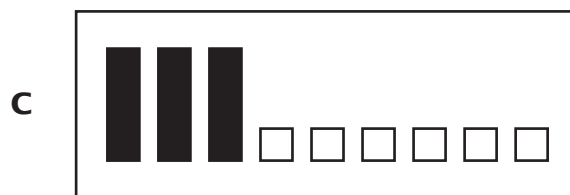
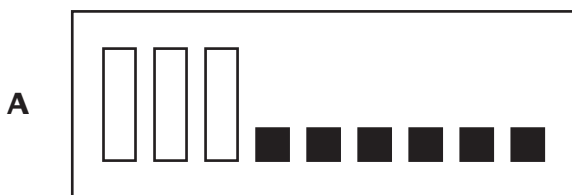
J $(8 \times 2) \times 3 = 8 \times (2 \times 3)$

Go On ►

5 Look at the key below.



Which model below represents $-3x + 6$?



Reporting Category: 2 Number and Operations

Performance Indicator: 6.2.1 Solve problems involving the multiplication and division of fractions.

6 Chef Henry's cake recipe uses $\frac{1}{4}$ dozen eggs for each cake he makes. He has $3\frac{1}{2}$ dozen eggs.

What is the greatest number of cakes Chef Henry can make with this amount of eggs?

- F** 12
- G** 14
- H** 20
- J** 28

Reporting Category: 2 Number and Operations

Performance Indicator: 6.2.2 Solve problems involving the addition, subtraction, multiplication, and division of mixed numbers.

7 Jessica used fence panels that were $3\frac{3}{4}$ inches wide to build a gate. The gate was 5-feet wide

and had no space between the panels. What was the total number of panels Jessica used?

- A** 20 panels
- B** $18\frac{3}{4}$ panels
- C** 16 panels
- D** $8\frac{3}{4}$ panels

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Reporting Category: 2 Number and Operations

Performance Indicator: 6.2.3 Solve problems involving the addition, subtraction, multiplication, and division of decimals.

8 Becky bought two stuffed animals. She paid \$13.35 for the first stuffed animal and \$9.92 for the second stuffed animal. What is the total amount she paid for the two stuffed animals?

- F** \$3.43
- G** \$12.27
- H** \$22.27
- J** \$23.27

Reporting Category: 2 Number and Operations

Performance Indicator: 6.2.4 Solve multi-step arithmetic problems using fractions, mixed numbers, and decimals.

9 Mrs. Kendal planned to spend \$40 to take her children to the movies.

- She spent \$28.00 on movie tickets.
- She spent \$2.50 for each of 3 bags of popcorn.
- She spent \$1.75 for each of 4 drinks.
- She spent \$1.00 for a pickle.

Exactly how much more did Mrs. Kendal spend at the movies than she had planned?

- A** \$7.75
- B** \$6.75
- C** \$3.50
- D** \$2.50

Reporting Category: 2 Number and Operations

Performance Indicator: 6.2.5 Transform numbers from one form to another (fractions, decimals, percents, and mixed numbers).

10 The average gas price in the United States increased by approximately 120% from January 2001 to January 2011. Which value is equivalent to 120%?

F $1\frac{1}{5}$

G $1\frac{3}{25}$

H $\frac{1}{5}$

J $\frac{3}{25}$

Reporting Category: 2 Number and Operations

Performance Indicator: 6.2.6 Solve problems involving ratios, rates and percents.

11 The ratio of girls to boys on sport teams at a school is 2 to 3. There are 300 students on sport teams. How many girls are on sport teams at this school?

A 120

B 180

C 200

D 450

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Reporting Category: 2 Number and Operations

Performance Indicator: 6.2.7 Locate positive rational numbers on the number line.

12 Which point on the number line below best represents $\frac{19}{8}$?



- F Point *P*
- G Point *N*
- H Point *M*
- J Point *L*

Reporting Category: 2 Number and Operations

Performance Indicator: 6.2.8 Locate integers on the number line.

13 Which integer does Point *K* best represent on the number line below?



- A 5
- B 1
- C -1
- D -5

Reporting Category: 3 Algebra

Performance Indicator: 6.3.3 Write equations that correspond to given situations or represent a given mathematical relationship.

14 Ms. Hollis spent \$10 on food each day for 5 days. During this time period, she also spent a total of \$61 on fuel for her car and \$85 to pay her electricity bill. Which equation could be used to determine t , the total amount of money, in dollars, Ms. Hollis spent during this time period?

F $t = 5 \times (10 \times 61) + 85$

G $t = 5 \times (10 + 61) + 85$

H $t = 5 \times (10 + 61 + 85)$

J $t = 5 \times 10 + (61 + 85)$

Reporting Category: 3 Algebra

Performance Indicator: 6.3.4 Rewrite expressions to represent quantities in different ways.

15 Which expression has the same value as $3m + 6$?

A $m + m + m + 6$

B $m \cdot m \cdot m + 6$

C $3 + m \cdot 6$

D $3 \cdot m \cdot 6$

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Reporting Category: 3 Algebra

Performance Indicator: 6.3.5 Translate between verbal expressions/sentences and algebraic expressions/equations.

16 Which expression means the same as the description below?

five times the sum of four and five tenths and x

F $5x + 4.5$

G $5(4.5 + x)$

H $5 + 4.5 + x$

J $5(4.5x)$

Reporting Category: 3 Algebra

Performance Indicator: 6.3.6 Solve two-step linear equations using number sense, properties, and inverse operations.

17 What value of k makes this equation true?

$$2k + 21 = 45$$

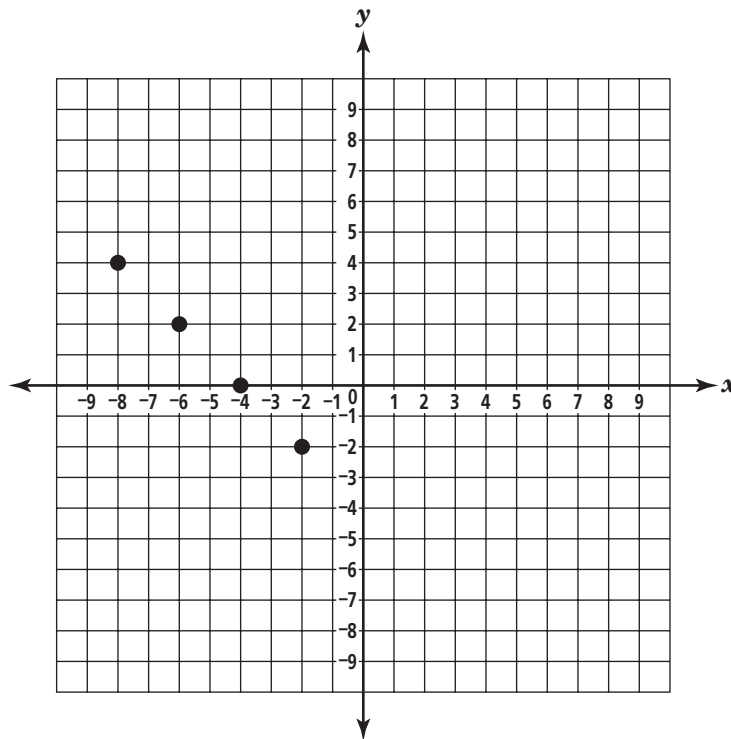
A 48

B 33

C 22

D 12

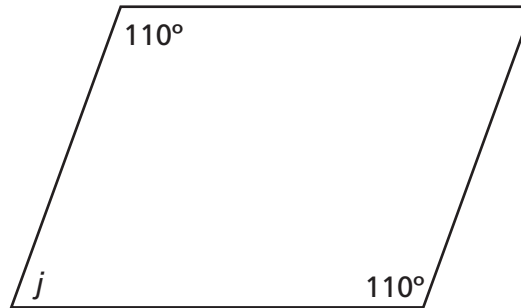
18 Four points are graphed on the coordinate grid below.



Which coordinate pair best represents the location of one of the four points plotted on this grid?

- F** (4, 0)
- G** (4, -8)
- H** (-1, -2)
- J** (-6, 2)

- 19** Two of the interior angle measures of a parallelogram are shown below.



What is the measure of Angle j ?

- A** 250°
- B** 140°
- C** 110°
- D** 70°

20 A circle has a radius of 16 meters.

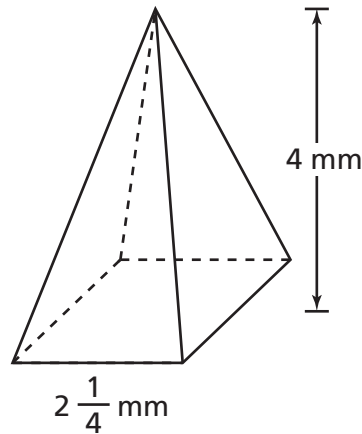
$$\text{Area} = \pi r^2$$

$$\pi \approx 3.14$$

Which measurement is closest to the area of the circle?

- F** 100 square meters
- G** 804 square meters
- H** 2,524 square meters
- J** 3,215 square meters

21 The height and base length of the square pyramid below are shown in millimeters.



$$\text{Volume} = \frac{1}{3}Bh$$

$$B = \text{area of the base}$$

What is the volume of this square pyramid?

- A** $19\frac{1}{3}$ cubic millimeters
- B** $6\frac{3}{4}$ cubic millimeters
- C** 6 cubic millimeters
- D** 3 cubic millimeters

22 The graphs below show how the numbers of customers for Store X and Store Y increased during the same five weeks.



Dorian concluded that the number of customers for Store X increased by the same number as the number of customers for Store Y. Which feature of the graphs most likely misled Dorian to this conclusion?

- F** The vertical scale on one graph is different from the vertical scale on the other graph.
- G** The time period on one graph is different from the time period on the other graph.
- H** Each graph has a vertical scale that is inconsistent.
- J** Each graph starts at 0 customers and 0 weeks.

23 Mr. Hansen conducted a survey to determine how well the new mayor of a town was doing her job. Which group could Mr. Hansen use to produce results that are the least biased?

- A** all the people who work for or who voted for the mayor
- B** fifty people chosen at random from each section of town
- C** all the people in the town who volunteer at the high school and middle school
- D** fifty people who have recently written letters to the newspaper about the mayor

Mathematics Answer Key

1	C
2	H
3	B
4	J
5	C
6	G

7	C
8	J
9	C
10	F
11	A
12	J

13	A
14	J
15	A
16	G
17	D
18	J

19	D
20	G
21	B
22	F
23	B