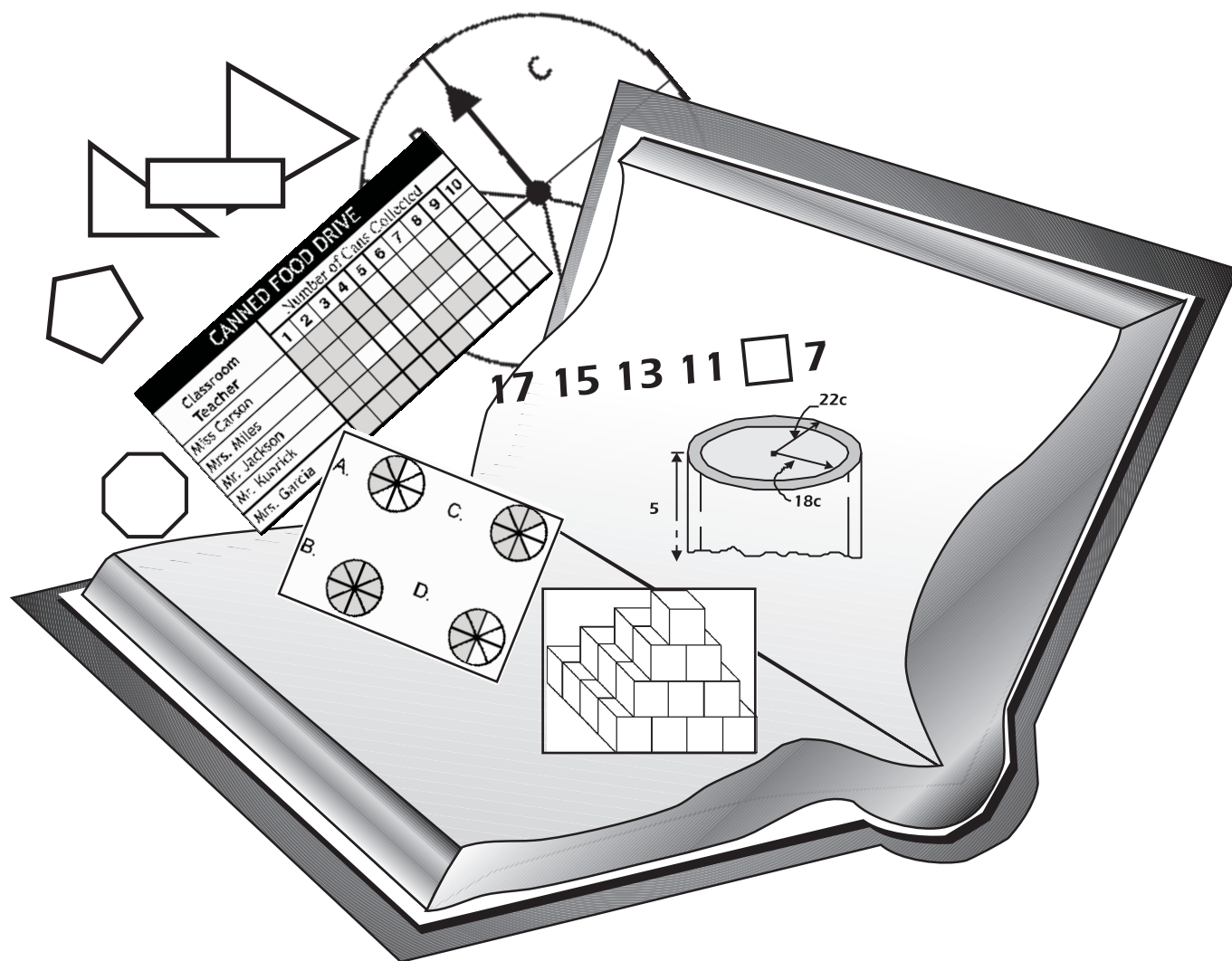


Mathematics

SAMPLE TEST

Benchmark 3 (Grade 8)



2000-2001

Oregon Department of Education
Office of Assessment and Evaluation

DIRECTIONS

Read each of the questions below and then decide on the BEST answer. There are a lot of different kinds of questions, so read each question carefully before marking an answer on your answer sheet.

1

At sporting events, the number of first-aid workers needed depends on how many people attend the event. This table shows the number needed for various numbers of people attending.

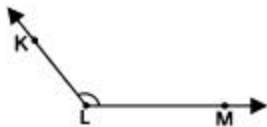
Number of People Attending Event	300	600	900			?	
Number of Medical Workers	2	4	6	8	10	12	14

Based on the information in this table, if there are 12 first-aid workers at the event, how many people are attending the event?

- A. 1,500 B. 1,800 C. 1,900 D. 2,000

2

Which of the following terms most accurately describes $\angle KLM$?

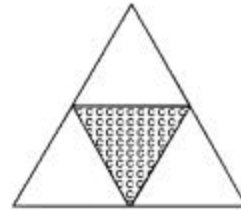


- A. Acute angle
B. Right angle
C. Supplementary angle
D. Obtuse angle

3

If the shaded area represents $\frac{1}{4}$, then

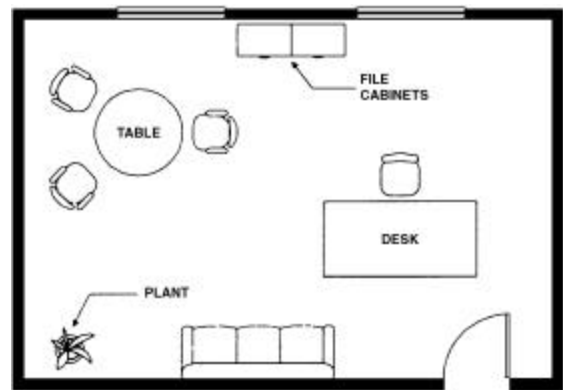
which of the following decimal numbers represents UNSHADED area?



- A. 0.25 B. 0.50 C. 0.65 D. 0.75

4

Look at the scale drawing below. It shows the office of the president of Intechtics. Which of the following scales is most likely the one used?



- A. 1 foot equals 1 yard.
B. 1 centimeter equals 1 inch.
C. 1 millimeter equals 1 kilometer.
D. 1 inch equals 6 feet.

Mathematics ▼

5

A number of children live in Forest View. The average of the children's ages is 13. Several of the statements below COULD be true, but only one HAS to be true. Which one?

- A. There are more children who are 13 than there are at any other age.
- B. Almost every child is 13.
- C. If you lined up the children from youngest to oldest, the 13-year-olds would be in the middle.
- D. The sum of the children's ages divided by the number of children is 13.

6

Which of these expressions is equivalent to

$$7(9 + 11)$$

- A. $(7 \times 9) + (7 \times 11)$
- B. $63 + 11$
- C. $(7 + 9) \times (7 + 11)$
- D. $16 + 18$

7

Mandy is sewing fringe around the perimeter of a scarf. The scarf is cut in the shape of an equilateral triangle. 1 side of the scarf is 9.5 inches long. How much fringe will Mandy need?

- A. 19 inches
- B. 28.5 inches
- C. 1 yard, 2 inches
- D. 36 inches

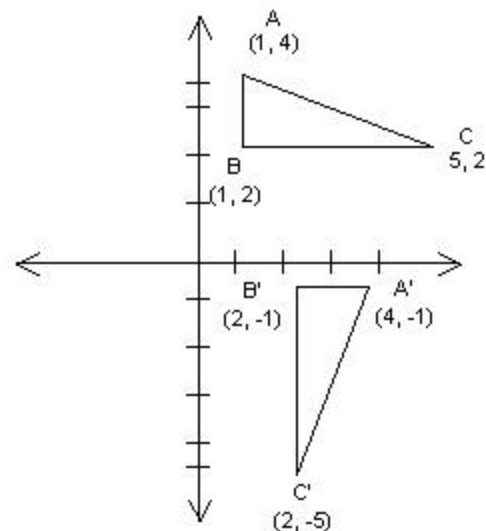
8

At 1 bowling alley, it costs a certain amount (S) to rent shoes for an evening and a fixed amount (G) for each game a bowler bowls. Which of the following formulas best shows the total cost (C) for renting shoes and bowling 4 games?

- A. $C = S + G$
- B. $C = S + 4G$
- C. $C = 4(S + G)$
- D. $C = 4S + G$

9

What type of transformation was used to create $\triangle A'B'C'$?



- A. 90° clockwise rotation
- B. 180° clockwise rotation
- C. reflection across x-axis
- D. slide translation

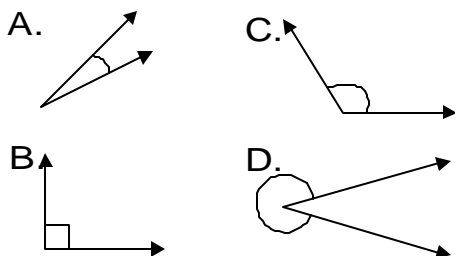
10

A vocational school admits about 3 of every 5 people who apply. If 130 people apply, how many will probably be admitted?

- A. About 52
- B. About 78
- C. About 87
- D. About 104

11

Which of the indicated angles is about 330° ?



12

Laura's family is having a lottery. All five family members drop their own names into a hat. The first name pulled from the hat must do the dishes all week. What is the probability that Laura will NOT have to do the dishes this week?

- A. $\frac{1}{5}$
- B. $\frac{2}{5}$
- C. $\frac{3}{5}$
- D. $\frac{4}{5}$

13

How many liters of a 75% salt water solution should be added to 50 liters of a 25% salt water solution to make a 50% salt water solution?

- A. 50
- B. 55
- C. 60
- D. 75

14

Which group of CAPITAL letters shown below has both vertical and horizontal symmetry?

- A. B C D E
- B. A M T Y
- C. F G J L
- D. H I O X

15

Tickets for a concert cost \$18 in advance and \$20 at the door. Advance ticket sales totaled \$9,036. A total of 842 people attended the concert. What was the total amount of money raised by the ticket sales?

- A. \$6,800
- B. \$15,156
- C. \$15,836
- D. \$16,840

Mathematics ▼

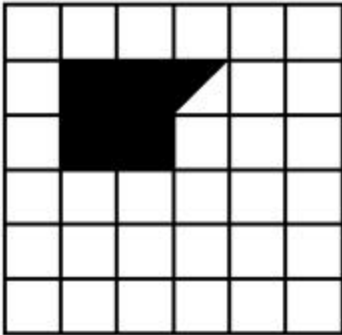
16

A king-size water-bed mattress whose dimensions are 7 feet by 6 feet by 6 inches is filled with water. If the weight of a cubic foot of water is 45 pounds, how much will the water in the mattress weigh?

- A. 607.5 pounds
- B. 945 pounds
- C. 1,890 pounds
- D. 11,340 pounds

17

A dart randomly hits the dartboard below. What is the probability it will land in the shaded area?



- A. 0.125
- B. 0.25
- C. 0.8
- D. 4.5

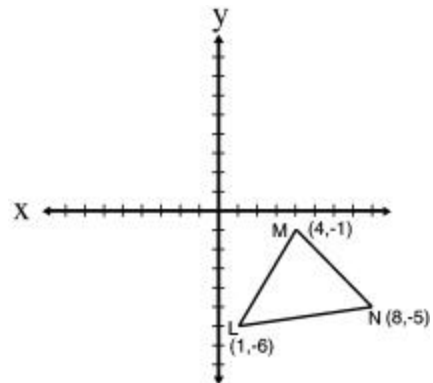
18

Carson will earn \$25 plus \$5 for every mile he runs for a fund-raiser. He wants to earn at least \$100. Which expression represents the money Carson wants to earn if x equals the miles to run?

- A. $25x + 5 > 100$
- B. $25x + 5 \leq 100$
- C. $5x + 25 > 100$
- D. $5x + 25 \geq 100$

19

$\triangle LMN$ is reflected over the x -axis and then over the y -axis. What are the coordinates of the image of point N after these two reflections?



- | | |
|--------------|--------------|
| A. $(-5, 8)$ | C. $(8, -5)$ |
| B. $(4, 1)$ | D. $(-8, 5)$ |

20

On the day after a snowstorm, 37.5% of the students were late for school, and one-fourth of the students stayed home. If the school has 1200 students, how many were at school on time that day?

- A. 750
- B. 450
- C. 300
- D. 150

21

This scale is holding 3 apples and nothing else.



How much do the apples weigh?

- A. 25 pounds
- B. 21 pounds
- C. 2 pounds 8 ounces
- D. 2 pounds 4 ounces

22

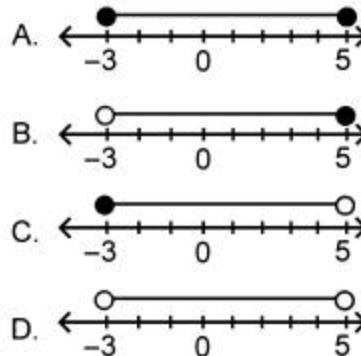
Claudia needs to buy 2 flavors of ice cream for her class party. She has 6 different kinds to choose from. How many ways can she choose 2 different flavors?

- A. 6
- B. 12
- C. 15
- D. 30

23

Which number line represents the solution to

$$-3 < x \leq 5 ?$$



24

The smallest interior angle of a triangle is 30° . Which one of these statements **MUST** therefore be true?

- A. The second angle is 60° , the third is 90° .
- B. Neither of the other two angles can be greater than 75° .
- C. The triangle must be an acute triangle.
- D. The measures of the other 2 angles must add up to 150° .

25

In a room with 400 people, would 2 of them have the same birthday?

- A. Yes
- B. Probably
- C. Probably not, but it's possible.
- D. There's no way to tell.

Mathematics ▼

NON-CALCULATOR ITEMS:

26

Which is the closest estimation for
 $3721 \div 91$?

- A. 50 B. 45 C. 40 D. 30

27

Which of the following expressions is
closest to 0.1 ?

- A. $\frac{1}{2}$
B. 100 %
C. 10^1
D. 0.09