

Grade 8 . Math assessment test

1. Use the expression below to answer the question.

$20 + 8y - 9y - 21$.Which expression is equivalent?

A. $2(10 + 4y - 7y - 19)$

B. $2(10 + 4y) - 3(3y - 7)$

C. $4(5 + 2y - 5y - 17)$

D. $4(5 + 2y) - 3(3y + 7)$

2.If $\frac{1}{4}$ of a number is 5 less than $\frac{1}{3}$ of the number, the number is

A) 50

B) 52

C) 55

D) 60

3. Angles A and B are complementary angles. Angles B and C are supplementary angles. The degree measure of each angle is a whole number. What is the smallest possible measure of angle C?

A. 1° B. 89° C. 91° D. 179°

4. Jessy has \$35 to buy comic books and to pay for a movie ticket. Each comic book costs \$3. The movie ticket costs \$10. Which inequality can be used to determine how many comic books, b , Jessy can buy?

A. $35 - 3b \leq 10$

B. $35 - 3b \geq 10$

C. $35 - 10b \leq 3$

D. $35 - 10b \geq 3$

5. A roll of 40 quarters weighs 8 ounces. Which proportion can be used to find the weight in ounces, w , of 200 quarters?

A. $\frac{40}{8} = \frac{200}{w}$

B. $\frac{40}{w} = \frac{8}{200}$

C. $\frac{40}{200} = \frac{w}{8}$

D. $\frac{40}{8+w} = \frac{w}{200}$

6. A box of sunflower seeds contains p packets. Each packet of sunflower seeds contains s seeds. Which equation can be used to find the number of sunflower seeds in a box, b ?

A. $p = sb$

B. $p = s / b$

C. $b = ps$

D. $b = p / s$

7. Which situation can be represented by the equation $y=8x$?

A. Hanna bought x items at a store. Each item costs \$8. Hanna spent a total of y dollars at the store.

B. Hanna baked y batches of cookies. There were 8 cookies in each batch. Hanna baked a total of x cookies.

C. Hanna correctly answered x questions on a quiz. Each question was worth y points. Hanna received a total of 8 points on the quiz.

D. Hanna earned \$8 for babysitting. He also earned x dollars for mowing lawns. Hanna earned a total of y dollars for babysitting and mowing lawns.

8. Divide

$$-1\frac{1}{5} \div -1\frac{5}{6}$$

A. $-\frac{11}{5}$

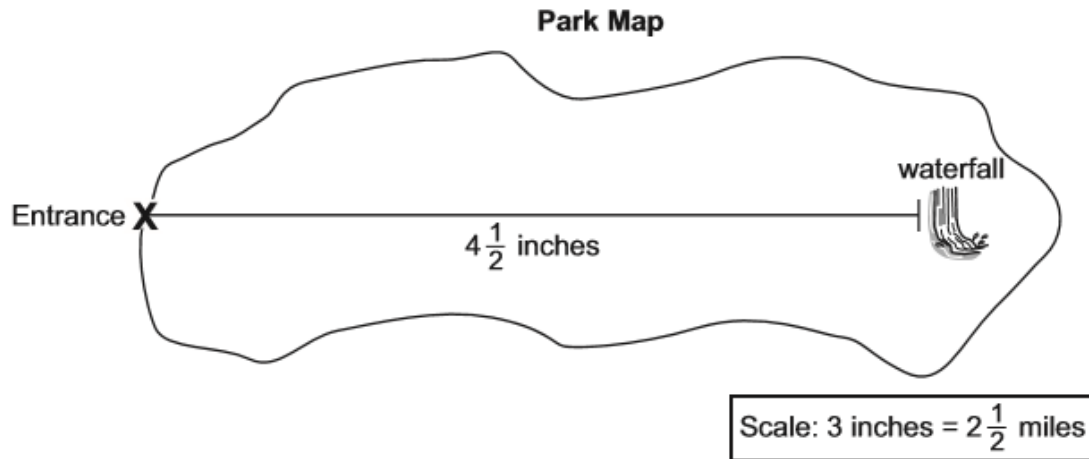
B. $-\frac{36}{55}$

C. $\frac{36}{55}$

D. $\frac{11}{5}$

9.

The distance on a map between the entrance of a park and a waterfall inside the park is $4\frac{1}{2}$ inches.



What is the actual distance from the entrance of the park to the waterfall?

- A. 3.75 miles
- B. 4 miles
- C. 5 miles
- D. 5.4 miles

10. In Ms. Clares's class, the ratio of boys to girls is 3:7. The class sizes at Ms. Clares's school range from 22 to 34 students per class. What is the total number of students in Ms. Clares's class?

- A. 21 students
- B. 24 students
- C. 28 students
- D. 30 students

11. The circumference of the circular table on Colton's porch is 72π inches. What is the radius of the table?

- A. 18 inches
- B. 36 inches
- C. 72 inches
- D. 144 inches

12. When 5 times a number k is increased by 4, the result is at most 3 times the number decreased by 2. Which of the following expressions represents the sentence above?

- A) $5k + 4 > 3k - 2$
- B) $5k + 4 \leq 3k - 2$
- C) $5(k + 4) > 3K - 2$
- D) $5(k + 4) > 3(K - 2)$

13. Half the difference of two positive number is 10. If the smaller of the two numbers is 3, what is the sum of the two numbers?

14.

If $\frac{10^k}{10^q} = 1000$, then k ?

- A. $1-q$
- B. q
- C. $3-q$
- D. $3+q$
- E. $2-q$

15.

If the value of n nickels plus d dimes is C cents, what is n in terms of d and c ?

- A. $\frac{c}{5} - 2d$
- B. $5c - 2d$
- C. $\frac{c-d}{10}$
- D. $\frac{cd}{10}$
- E. $\frac{c+10d}{5}$

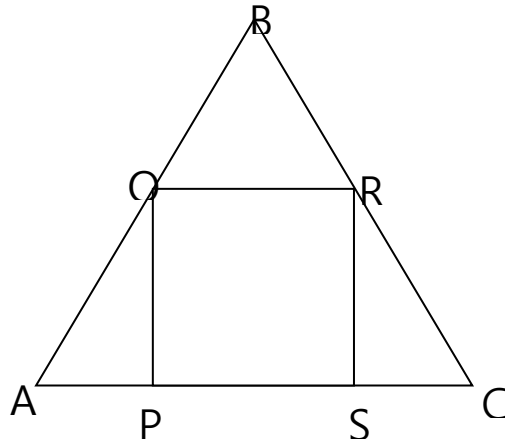
16.

If p and r are positive integers and $2p+r+1=2r+p+1$, which of the following must be true?

- I. p and r are consecutive integers.
- II. p is even
- III. r is odd.

- A. None.
- B. I only
- C. II only
- D. III only
- E. I, II and III

17.

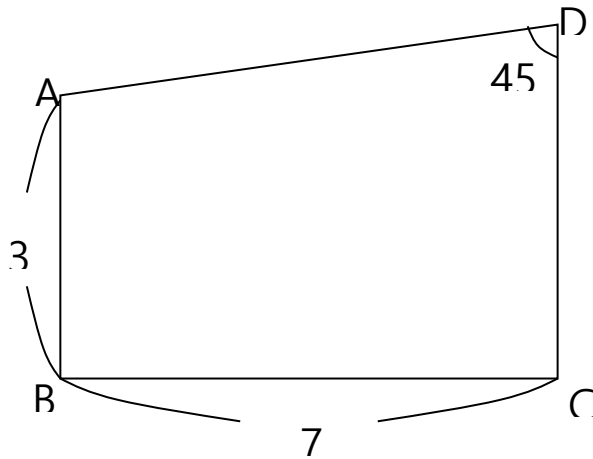


In the figure above, the vertices of square PQRS lies on the sides of equilateral triangle ABC. If the area of the square is 3, what is the perimeter of ABC?

- A. 9
- B. 12
- C. $3+6\sqrt{3}$
- D. $6+6\sqrt{3}$
- E. $6+3\sqrt{3}$

Pr18) and Pr19) refer to the following figure.

Note : Figure is not drawn to scale.



Problem 18.

What is the perimeter of quadrilateral ABCD?

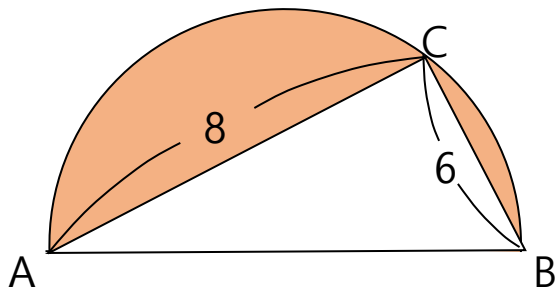
- A. 20
- B. 24
- C. $26+\sqrt{2}$
- D. $17+7\sqrt{2}$
- E. $20+7\sqrt{2}$

Problem 19.

What is the area of quadrilateral ABCD?

- A. 45.5
- B. 43.5
- C. 41.5
- D. 43
- E. 42.5

Problem 20.



In the figure above, arc ACB is a circle of which AB is a diameter. If $AC=8$ and $BC=6$, what is the area of the shaded region?

- A. $25\pi - 48$
- B. $25\pi - 24$
- C. $12.5\pi - 24$
- D. $12.5\pi - 48$
- E. $50\pi - 24$

