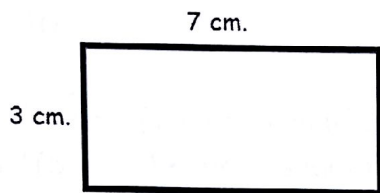


DOMAIN III

Common Core Math 7 EOG Questions- Expressions & Equations

1. The rectangle below has a length of 7 centimeters and a width of 3 centimeters.



Three centimeters are subtracted from the length, and c centimeters are added to the width. The area of the new rectangle is 32 square centimeters. What is the value of c ?

- A. 1 centimeters
- B. 3 centimeter
- C. 5 centimeters
- D. 10 centimeters

2. A rectangle's length is three more than two times its width. If the perimeter of a rectangle is 66 feet, what is the measurement of the length?

- A. 10 inches
- B. 21 inches
- C. 23 inches
- D. 45 inches

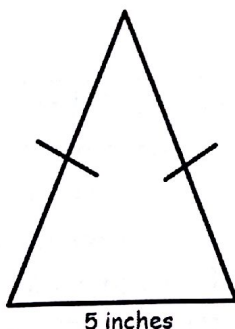
3. Which expression is NOT equivalent to $8p + 6$?

- A. $2(4p + 3)$
- B. $2(4p - 1) + 10$
- C. $-12p + 30 + 20p - 24$
- D. $2p + 4 + 5p + 2 + p$

4. Which expression is equivalent to $9m - 36$?

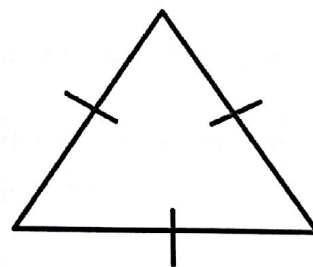
- A. $9(m - 36)$
- B. $8m - 12 + m + 48$
- C. $9(m + 4)$
- D. $-12m + 4 + 21m - 40$

5. The isosceles triangle below has a perimeter of $6x + 7$. If the base is 5, what is the length of each of the unknown sides?



- A. $3x + 1$
- B. $6x + 2$
- C. $3x + 2$
- D. $x + 2$

6. The triangle shown has a perimeter of $6x + 1$.



What is the length of each side of the triangle?

- A. $18x + 3$
- B. $2x + \frac{1}{3}$
- C. $2x + 1$
- D. $3x + \frac{1}{3}$

7. Which expression is NOT equivalent to $5(2a - 6) - 16a$?

- A. $6a - 30$
- B. $10a - 16a - 30$
- C. $-30 - 6a$
- D. $-6a - 30$

8. Which expression is NOT equivalent to $\frac{1}{2}(8p - 14) - 10p$?

- A. $4p - 7 - 10p$
- B. $-7 + (-6p)$
- C. $4p - 7 - 5p$
- D. $-6p - 7$

9. What is the coefficient of m when the expression $\frac{1}{4}(8m - 4) - 3m$ is simplified?

- A. -2
- B. -1
- C. 1
- D. 2

10. What is the coefficient of k when the expression $-2(4k - 9) - 11k + 8$ is simplified?

- A. 3
- B. -3
- C. -7
- D. -19

11. Paula is saving for a spring break trip. So far, she has saved \$90. If she plans to save \$15 each week (w) from her part-time job, which expression shows long must she save for until her savings are quadrupled?

- A. $15w + 90 = 360$
- B. $4(15w + 90) = 360$
- C. $15w + 90w = 360$
- D. $4(15w) + 90 = 360$

12. Several students conducted a survey of the type of snacks that their peers wanted for the field trip.

Survey Results
Jaime reported that 4 out of 15 students wanted a salty snack.
Laura reported that $\frac{1}{4}$ of the students wanted a sweet snack.
Piper reported that .2 of the students wanted pizza.

Based on the three surveys, which snack was the most desired?

- A. A salty snack
- B. A sweet snack
- C. Pizza
- D. Salty and sweet snacks are tied.

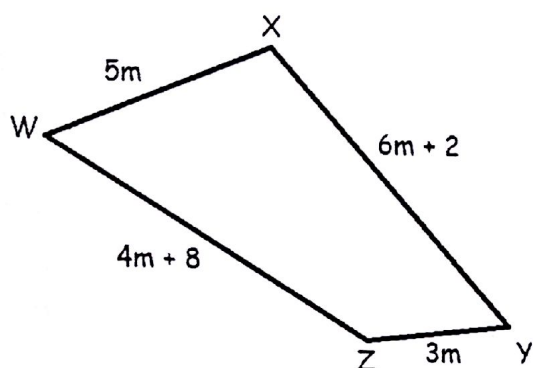
13. Margie, Eric, and Connor helped their band stuff envelopes for a fundraiser. Margie has stuffed 96 out of 144 envelopes. Eric has stuffed 62% of his envelopes. Connor has stuffed $\frac{3}{4}$ of his envelopes. If each student started with the same amount, who has the most envelopes left to stuff?

- A. Margie
- B. Eric
- C. Connor

14. What is the solution set for the inequality, $4(p - 3) - 12p \geq 36$

- A. $p \leq 6$
- B. $p \geq 6$
- C. $p \leq -6$
- D. $p \geq -6$

15. The perimeter of the quadrilateral WXYZ is 82 inches. What is the length of segment XY?



- A. 4 inches
- B. 12 inches
- C. 20 inches
- D. 26 inches

16. Junie earns \$7.25 working at The Dollar Mart. Junie is saving the money that she earns to purchase a computer that costs \$450. Which inequality represents the number of hours (h) that Junie would have to work in order to have enough money to buy the computer?

- A. $7.25 + h > 450$
- B. $7.25h > 450$
- C. $7.25h \geq 450$
- D. $450 - h \geq 7.25$

17. Consider these inequalities.

- I. $-5k > -30$
- II. $-2k + 9 < 0$
- III. $3k > k + 14$

For which of these inequalities is $k = 7$ a solution?

- A. I only
- B. II only
- C. I and III
- D. II and III

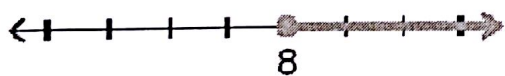
18. An algebraic inequality is written in words.

"The product of 15 and a number, increased by 8 is at most 44."

Which choice matches the statement?

- A. $15n + 8 < 44$
- B. $15n + 8 > 44$
- C. $15n + 8 \leq 44$
- D. $15n + 8 \geq 44$

19. Analyze the inequality.



Which scenario best explains the inequality?

- A. Kayla has sold at least 8 boxes of cookies.
- B. Linda answered more than 8 problems correctly.
- C. Parker walked no more than 8 miles.
- D. John slept fewer than 8 hours.

20. Find the solution set for the inequality.

$$-m < -22$$

- A.
- B.
- C.
- D.