**Common Core Math 7 EOG Questions - Expressions & Equations**

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

   ![Rectangle](image)

   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?

   ![Isosceles Triangle](image)

   What is the length of each side of the triangle?

   A. \( 3x + 1 \)  
   B. \( 6x + 2 \)  
   C. \( 3x + 2 \)  
   D. \( x + 2 \)

6. The triangle shown has a perimeter of \( 6x + 1 \).

   ![Triangle](image)

   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.

<table>
<thead>
<tr>
<th>Survey Results</th>
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<tbody>
<tr>
<td>Jaime reported that 4 out of 15 students wanted a salty snack.</td>
</tr>
<tr>
<td>Laura reported that $\frac{1}{4}$ of the students wanted a sweet snack.</td>
</tr>
<tr>
<td>Piper reported that .2 of the students wanted pizza.</td>
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</tbody>
</table>

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 $\frac{1}{3}$ 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.
EE- Case 21
2, 4, 5, 6, 7, 10, 14, 15, 20, 21, 28, (Use 31,32etc), 33, 35, 38, 40, 44, 49

Answers:
1. C
2. C
3. B
4. D
5. A
6. B
7. A
8. C
9. B
10. D
11. A
12. A
13. B
14. C
15. D
16. C
17. B
18. C
19. A
20. C