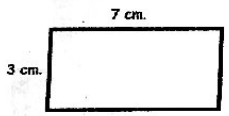
Common Core Math 7 EOG Questions- Expressions & Equations

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

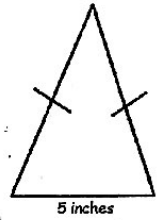
3. Which expression is NOT equivalent to $8p + 6$?

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 $9m - 36$?

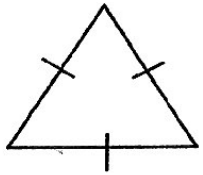
A. $9(m - 36)$
B. $8m - 12 + m + 48$
C. $9(m + 4)$
D. $-12m + 4 + 21m - 40$

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. $p \geq -6$

Common Core Math 7 EOG Questions- Ratios and Proportional Relationships

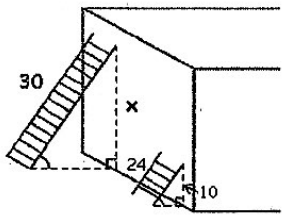
1. Cameron's friend John is going to Italy. She wants John to bring her back a souvenir item but Italy uses the Euro as its own unit of currency.

Conversion
1 US Dollar = about .77 European Euro

If Cameron gives his friend $50, about how many European Euros can John spend on the souvenir?

A. About $39
B. About $49
C. About $50
D. About $65

2. The ladders shown below are standing against the wall at the same angle. How high up the wall does the longer ladder go? (All measurements are in feet.)



A. 25 feet
B. 12.5 feet
C. 14 feet
D. 11.25 feet

3. Karla, an editor for "The Legacy" newspaper, edits $\frac{1}{5}$ of a page in 3 minutes. How long would it take Karla to edit 3 pages?

A. 9 minutes
B. 15 minutes
C. 45 minutes
D. 60 minutes

4. A 3-pound package of ground beef is $7.80. A $\frac{1}{2}$-pound package is $1.28. What is the difference in the cost per pound between the larger and smaller packages of beef?

A. The larger package costs $6.52 per pound more than the smaller package.
B. The larger package costs $2.60 more per pound than the smaller package.
C. The larger package costs $1.32 more per pound than the smaller package.
D. The larger package costs $0.04 more per pound than the smaller package.

5. Lauren made 15 cups of lemonade by mixing lemon juice and sugar water. The ratio of lemon juice to sugar water is 2 : 3. How many cups of lemon juice are in the lemonade?

A. 6 cups
B. 9 cups
C. 10 cups
D. 22.5 cups

6. Penelope is driving to college. She looks at a map to find out how far she has to drive. On the map, Penelope measures the distance to be 7.5 inches. If the map scale is 1.5 in. = 40 mi, how many miles does Penelope need to drive?

A. 200 miles
B. 210 miles
C. 300 miles
D. $\frac{9}{32}$ mile

7. The table below shows the amount of money that Bonnie spent during her last trip to Target.

Target Purchases	
Clothing	$56
Groceries	$82
School Supplies	$16

To the nearest percent, what percent of the total did she spend on groceries?

A. 10%
B. 36%
C. 53%
D. 88%

8. On a map, the length of the road from town A to B is 12 inches. On this map, $\frac{3}{4}$ inch represents 8 miles. What is the actual distance from town A to B in miles?

A. 128 miles
B. 96 miles
C. 72 miles
D. 1.125 miles

9. Jennifer's new bike costs $96. Her parents paid 40% of the cost and Jennifer paid the rest. How much did Jennifer pay?

A. $38.40
B. $57.60
C. $130.00
D. $134.40

10. Leann purchased a new computer for her birthday. She had to pay 7.5% sales tax on the computer. If she paid $63.75 in sales tax, how much did the computer cost?

A. $4.78
B. 68.53
C. $850
D. $900

11. Miller earns $70,000 per year and puts 7% of his earnings into a savings account. What is the total amount in Miller's savings account after 1 year if the interest rate is 3%?

A. $147
B. $2,100
C. $5,047
D. $72,100

12. A writer earns 8% of total sales dollars as a commission. If 2,000 copies of his book are sold at $14.95 each, how much commission does he earn?

A. $1.20
B. $119.60
C. $160
D. $2,392

13. Yosef purchased a new sweater. The total price of the sweater, *including the 8% sales tax*, was $16.74. What was the retail cost of the sweater (before tax)?

A. $15.40
B. $15.50
C. $18.08
D. $16.66

14. The sweatshirt you purchased was on sale for $29.25, having been marked 35% off. What was the original price?

A. $45
B. $39.49
C. $35.46
D. $19.01