

Name: _____

Date: _____

Ms. Streffacio

Class: _____

8.EE.7

1. What is the value of t that satisfies the equation below?

$$3(t + 4) - 2(2t + 3) = -4$$

A $-\frac{11}{3}$

B $-\frac{4}{5}$

C 10

D 11

2. What is the solution to the equation shown below?

$$\frac{2}{3}x + 5 = 1$$

A $x = -6$

B $x = 4$

C $x = -4.5$

D $x = 9$

3. What is the solution to the equation below?

$$5c + 4 = 2(c - 5)$$

A $c = -4\frac{2}{3}$

B $c = -3$

C $c = -2$

D $c = -1$

4. What value for the constant, h , in the equation shown below will result in an infinite number of solutions?

$$6x + 18 = h(3x + 9)$$

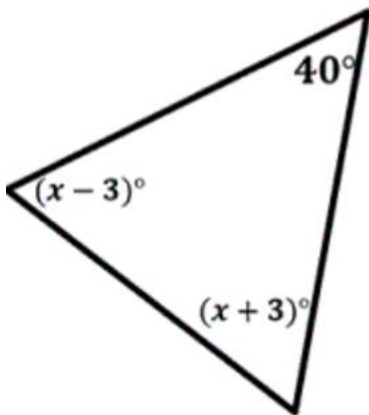
A -2

B -3

5. Which best describes the type of solution that results from solving the following equation?

$$3x + 7 = 7$$

- A. One solution
B. Infinitely many solutions
C. No solution
D. None of the above
6. The sum of the angles of a triangle is 180° . What are the angle measurements in the triangle below?



- A. $40^\circ, 70^\circ, 70^\circ$
B. $40^\circ, 67^\circ, 73^\circ$
C. $40^\circ, 77^\circ, 63^\circ$
D. $40^\circ, 78^\circ, 62^\circ$

7. Which statement best describes the solution to the following equation?

$$-2(x + 3) = 5x - 7x - 6$$

- A. $x = 0$, because the equation is never true. C. There are infinitely many solutions, because the equation is always true.
- B. The equation is only true for $x = -6$. D. There is no solution, because the equation is never true.

8. Which of the following equations does not have a solution?

- A. $2x + 1 = x - 3$ C. $2x - 1 = 2x - 1$
- B. $2x + 1 = 2x - 3$ D. $2x + 5 = 5$

9. Solve the equation, $F = \frac{9}{5}C + 32$, for C.

- A. $C = \frac{9}{5}(F - 32)$ C. $C = \frac{5}{9}F - 32$
- B. $C = \frac{9}{5}F - 32$ D. $C = \frac{5}{9}(F - 32)$

10. Solve the equation for x.

$$3 + 1.5x + 7 = -90 - x$$

- A. $x = -40$ C. $x = -4$
- B. $x = -32$ D. $x = -3.2$

11. Mary was working to solve the following equation.

$$\frac{1}{4}(3x-8+9x) = 2x-4+x$$

$$\frac{1}{4}(12x-8) = 3x-4$$

$$3x-2 = 3x-4$$

$$3x-3x = -4+2$$

$$0 = -2$$

Which statement is correct?

- A. Mary made a mistake; there is one solution for this equation.
- B. Mary made a mistake; there are many solutions for this equation.
- C. Mary did everything correctly; there is no solution for this equation.
- D. Mary did everything correctly; there are many solutions for this equation.
12. Suzette is solving the linear equation below. Her steps are shown below:

$$\frac{1}{9}x + \frac{4}{9}x - 5 = 10$$

$$\frac{5}{9}x - 5 = 10$$

$$\frac{5}{9}x = 15$$

What would be the last step to solve the equation?

- A. Subtract $\frac{5}{9}$ from both sides of the equation.
- B. Multiply both sides of the equation by $\frac{9}{5}$.
- C. Divide both sides of the equation by $\frac{9}{5}$.
- D. Subtract 15 from both sides of the equation.
13. Which of the equations is equivalent to $-5(x+2) - 3 = 12$?

A. $-5x - 13 = 12$

C. $-5x = 12$

B. $-5x - 1 = 12$

D. $-5x + 7 = 12$

14. Kendall transformed the equation into a simpler form as shown.

$$\frac{1}{3}(5x - 15 + 4x) = 1 + 3x + 4$$

$$\frac{1}{3}(9x - 15) = 3x + 5$$

$$3x - 5 = 3x + 5$$

$$3x - 3x = -5 + 5$$

$$0 = 0$$

Which statement is correct?

- A. Kendall made a mistake; the equation has no solution.
- B. Kendall did everything correctly; the equation has no solution.
- C. Kendall made a mistake; the equation has an infinite number of solutions.
- D. Kendall did everything correctly; the equation has an infinite number of solutions.

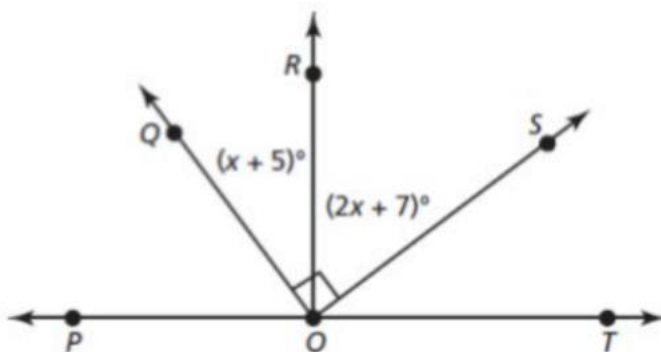
Consider the equation below.

$$3x + 5 = 3x - 5$$

Which statement **best** describes the solution?

- A. The equation has infinitely many solutions
- B. The equation has one solution, $x = 0$.
- C. The equation has one solution, $x = \frac{3}{5}$.
- D. The equation has no solution.

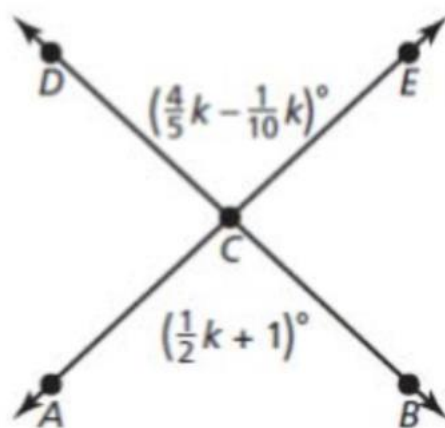
The figure below shows several rays that share a common endpoint.



What is the measure of $\angle QOR$?

- A. 61°
- B. 59°
- C. 31°
- D. 26°

In the diagram below $m\angle ACB = m\angle DCE$.



What is the value of k ?

- A. 4
- B. 5
- C. 6
- D. 7

Kendall transformed the equation $\frac{1}{3}(5x - 15 + 4x) = 1 + 3x + 4$ into a simpler form as shown.

$$\frac{1}{3}(5x - 15 + 4x) = 1 + 3x + 4$$

$$\frac{1}{3}(9x + 15) = 3x + 5$$

$$3x - 5 = 3x + 5$$

$$3x - 3x = -5 + 5$$

$$0 = 0$$

Which statement is correct?

- A. Kendall made a mistake; the equation has no solution.
- B. Kendall did everything correctly; the equation has no solution.
- C. Kendall made a mistake; the equation has an infinite number of solutions.
- D. Kendall did everything correctly; the equation has an infinite number of solutions.

Which equation has the same solution as $\frac{1}{2}(6 - x) + 3x = \frac{1}{2}x - 8$?
Circle the letter of the correct answer.

- A** $3 + 2x = \frac{1}{2}x - 8$
- B** $6 - x + 3x = x - 16$
- C** $3 + \frac{5}{2}x = \frac{1}{2}x - 8$
- D** $6 - x + 3x = x - 8$

What is solution of $5 + 3(y - 4) = 5(y + 2) - y$?

- | | |
|--------------------------|----------------|
| A $10\frac{1}{2}$ | C -1 |
| B $7\frac{1}{3}$ | D -17 |

Which equation does **not** have the same solution as $\frac{1}{3}(9 - 2x) = x + 1$?

- | | |
|------------------------------|----------------------------|
| A $2 = 1\frac{2}{3}x$ | C $9 - 2x = 3x + 3$ |
| B $3 - 2x = x + 1$ | D $-5x = -6$ |

Which shows a correct first step for solving the equation $2(3x - 8) = 32$?

- A $3x - 8 = 15$
- B $5x - 10 = 32$
- C $6x - 8 = 32$
- D $6x - 16 = 32$

Claire wants to solve the equation $-\frac{1}{4}(x - 1) = \frac{2}{3}x + 2$.

Which step would not be an appropriate first step for Claire to take to solve for x ?

- A Multiply both sides by -4 .
- B Use the distributive property to distribute $-\frac{1}{4}$.
- C Add 1 to both sides.
- D Multiply both sides by $\frac{3}{2}$.

In the equation below, for what value of c does $x = 4$?

$$\frac{1}{2}(2x + 4) = 3x - c$$

- | | |
|--------|-------|
| A -6 | C 3 |
| B -3 | D 6 |

How can you check your answer?



Choose *Yes* or *No* to tell whether the equation has the given solution.

- | | | |
|---|------------------------------|-----------------------------|
| a. $2x + 4 = 3x - 2; x = 6$ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| b. $\frac{1}{4}x + 3 = \frac{3}{4}x + 1; x = 8$ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| c. $3x - 5 = 0.5x; x = 2$ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| d. $\frac{2}{3}(3x + 6) = 3x - 4; x = 8$ | <input type="checkbox"/> Yes | <input type="checkbox"/> No |