

8.EE.7 Solving Linear Equations Study Guide

Student _____

1. Which equation below has infinitely many solutions?

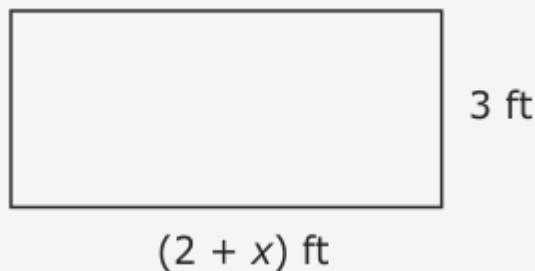
A. $\frac{1}{3}(6r + 12) = 2r + 12$

B. $\frac{1}{4}(8r + 12) = 3 + 2r$

C. $\frac{1}{2}(16 + 12r) = 12r + 8$

D. $\frac{1}{5}(10r + 20) = 2r + 10$

2. The perimeter of the rectangle below is 28 ft.



What is the value of x ?

- A. 7
- B. 9
- C. 18
- D. 20
3. How many solutions does the equation $3y + 5 = 7 + 3y - 9$ have?
- A. infinitely many solutions
- B. exactly 2 solutions
- C. exactly 1 solution
- D. no solutions

4. A telephone company charges a monthly fee of \$24 for 100 minutes of long distance service. The customer must then pay 7 cents per additional minute over 100. Todd's phone bill for October was \$26.38, not including taxes. How many total minutes of long distance did Todd use in October?

- A. 34
- B. 66
- C. 134
- D. 377

5. Which equation is equivalent to $-(5 - x) = 5 - x$?

- A. $-5 - x = 5 - x$
- B. $-5 + x = 5 - x$
- C. $5 - x = 5 - x$
- D. $5 + x = 5 - x$

6. Solve the given equation for x .

$$8 - \frac{6}{5}x = 10$$

- A. $-3\frac{1}{5}$
- B. $-\frac{5}{3}$
- C. $\frac{5}{3}$
- D. $3\frac{1}{5}$

7. What is the solution to $5(x + 1) - 8 = x - 4(2x - 1)$?

- A. 1
- B. $\frac{7}{12}$
- C. $\frac{1}{2}$
- D. -1

8. Twice a number m is 32 less than 6 times m . What is the value of m ?
- A. -8
B. -4
C. 4
D. 8
9. Three times the difference of a number x and seven is twenty-three minus the sum of three times a number x and two. What is the value of x ?
- A. 5
B. 7
C. no solution
D. infinitely many solutions
10. What is the solution to the equation $\frac{3}{5} - \frac{3}{5}\left(\frac{x}{2} - 3\right) = \frac{3}{2}\left(\frac{x}{5} - 1\right) - 3$?
- A. $\frac{8}{3}$
B. 8
C. $\frac{23}{2}$
D. 14
11. Which equation has the same solution as $(6 + 2x) - (3 - 4x) = 5$?
- A. $(6 - 3) + (2x - 4x) = 5$
B. $(6 - 3) + (2x + 4x) = 5$
C. $(6 + 3) + (2x - 4x) = 5$
D. $(6 + 3) + (2x + 4x) = 5$
12. How many solutions does the equation $2(x + 4) = 2x + 8$ have?
- A. no solutions
B. one solution
C. two solutions
D. infinite solutions
13. What is the value of x in the equation $5(3x - 4) = 2x + 7 + 4x$?
- A. 1
B. 3
C. 6
D. 13
14. What is the value of x in the equation $\frac{x - 4}{6} = \frac{3}{7}$?
- A. $1\frac{3}{7}$
B. $3\frac{1}{7}$
C. $4\frac{1}{14}$
D. $6\frac{4}{7}$

15. Solve: $3(x + 5) = 2x + 35$

Step 1: $3x + 15 = 2x + 35$

Step 2: $5x + 15 = 35$

Step 3: $5x = 20$

Step 4: $x = 4$

Which is the first *incorrect* step in the solution show above?

- A. Step 1
- B. Step 2
- C. Step 3
- D. Step 4

16. Which equation has only one solution?

A. $6r = 5r + r$

B. $4m + 5 = 25$

C. $8v + 11 = 8v + 11$

D. $2 - 3p = -3p + 5$

17. What are the three types of solutions for linear equations and what would be an example of the answer you would receive?

_____ Ex. _____
_____ Ex. _____
_____ Ex. _____

18. What are the steps to solving Mult-Step Equations?

- a. _____, if necessary.
- b. Get rid of all _____.
- c. _____ like terms on the _____ side, if necessary.
- d. Move variables to the _____.
- e. Move constants to the _____.
- f. Solve for the variable!!!