

1) Erica needs to determine if the expressions $8x + 12$ and $4(2x + 3)$ are equivalent or not. She says that they are not and shows the work below to explain why. Is Erica correct? If she is, explain why. If she isn't, fix her mistake.

$$8x + 12$$

$$\text{Let } x = 0$$

$$8(0) + 12 = 91$$

$$4(2x + 3)$$

$$\text{Let } x = 0$$

$$4(2(0) + 3) = 4(2(3)) = 92$$

Since 91 is not the same as 92, these expressions are not equivalent.

Simplify the following expressions:

2) $-2(3x + 8) - 4x$

3) $3 - 8(5x - 10)$

4) $3x + 4y - 10x - 15y - x$

5) Explain why the following is not correct.

$$2 + 6 = 8 + 10 = 18 - 4 = 14 - 9 = 5$$

Check to see if the answer given is a solution to the problem.

6) $2x + 9 = 13; x = 2$

7) $3 - 5c = -10; c = \frac{13}{5}$

8) $12 = 7d - 8; d = 14$

9) $-8 = 4 - 6k; k = 2$

10) WHY is the equal sign being used correctly here? Explain using complete sentences.

$$-4 + 5 = 10 - 9 = -13 + 14$$