

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**AIM: How do we solve equations by simplifying?**

*Simplify each expression.*

a)  $3x + 2x$

b)  $-5h + 6 - 8h - 12$

c)  $9(x - 5)$

d.)  $-2(c + 5)$

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**Practice with Simplifying Equations**

Example 1:  
 $4x + 6x + 8 = 58$

**Check:**

Example 2:  
 $3r - 2 + 2r + 6 = 24$

**Check:**

Example 3:  
 $3n - 8 + 5n = 16$

**Check:**

Example 4:  
 $3(a + 2) = 42$

**Check:**

Example 5:  
 $4(x + 1) = 20$

**Check:**

Example 6:  
 $5(m - 3) + 3m = -7$

**Check:**

## Find the mistake!

**Explain the mistake that was made**

$$3(4x + 2) + 2x = 10$$
$$3(6x + 2) = 10$$

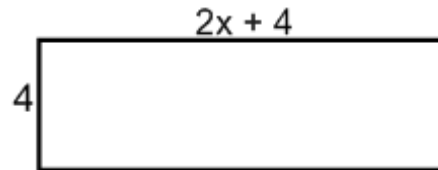
$$\begin{array}{r} 18x + 6 \\ \hline 18x \\ \hline 18 \end{array} = 10$$
$$\begin{array}{r} -6 \\ \hline = \frac{4}{18} \end{array}$$

$$x = \frac{4}{18} = \frac{2}{9}$$



The rectangle below has a length represented by  $2x + 4$  units and a width of 4 units. The area is 48 square units.

(a) Write an equation to represent the Area.



(b) Solve to find the value of  $x$ .

(c) What is the length of the rectangle?

$$-12 + 9d + 18 - d = 70$$

$$3(2j - 4) + j = 30$$

$$6n + 10 - n - 20 = 65$$

$$5x + 34 + 3x - 10 = -32$$



When solving equations we must

\_\_\_\_\_ before performing

\_\_\_\_\_ operations.