



Simplifying Linear Equations

Grade 8 Linear Equations Worksheet

Date: _____

Name: _____

LET'S MAKE LEARNING LINEAR EQUATIONS FUN

Simplify the following Linear Equations

1. $4(2x - 3) = 8(2x + 5)$

2. $7(4 - 3x) = 2(8x - 9) + 6$

3. $2(5x - 2) = 3(4x + 1)$

4. $10 - 6(8x - 2) = 9x - (3 + 4x)$

5. $-6(3 - 4x) + 2x = 8(x + 11)$

6. $9(2x - 1) - 3x = 3(12 + x)$

7. $4x - (2x - 8) = 5(1 + 2x)$

8. $4(7x - 8) = 5(2x + 5)$

9. $6(-8x - 1) = 2(5 - 3x)$

10. $7(6x - 10) = 3(-4x + 8)$



Simplify the following Linear Equations

Answers

1. Simplify:

$$\begin{aligned}4(2x - 3) &= 8(2x + 5) \\8x - 12 &= 16x + 40 \\8x - 16x &= 40 + 12 \\-8x &= 52 \\x &= -6.5\end{aligned}$$

2. Simplify:

$$\begin{aligned}7(4 - 3x) &= 2(8x - 9) + 6 \\28 - 21x &= 16x - 18 + 6 \\-21x - 16x &= -18 - 28 + 6 \\-37x &= -40 \\x &= 1.08\end{aligned}$$

3. Simplify:

$$\begin{aligned}2(5x - 2) &= 3(4x + 1) \\10x - 4 &= 12x + 3 \\10x - 12x &= 3 + 4 \\-2x &= 7 \\x &= -3.5\end{aligned}$$

4. Simplify:

$$\begin{aligned}10 - 6(8x - 2) &= 9x - (3 + 4x) \\10 - 48x + 12 &= 9x - 3 + 4x \\-48x - 9x - 4x &= -10 - 12 - 3 \\-61x &= -25 \\x &= 0.41\end{aligned}$$

5. Simplify:

$$\begin{aligned}-6(3 - 4x) + 2x &= 8(x + 11) \\-18 + 24x + 2x &= 8x + 88 \\24x + 2x - 8x &= 88 + 18 \\18x &= 106 \\x &= 5.89\end{aligned}$$

6. Simplify:

$$\begin{aligned}9(2x - 1) - 3x &= 3(12 + x) \\18x - 9 - 3x &= 36 + 3x \\18x - 3x - 3x &= 36 + 9 \\12x &= 45 \\x &= 3.75\end{aligned}$$

7. Simplify:

$$\begin{aligned}4x - (2x - 8) &= 5(1 + 2x) \\4x - 2x + 8 &= 5 + 10x \\4x - 2x - 10x &= 5 - 8 \\-8x &= -3 \\x &= 0.375\end{aligned}$$

8. Simplify:

$$\begin{aligned}4(7x - 8) &= 5(2x + 5) \\28x - 32 &= 10x + 25 \\28x - 10x &= 25 + 32 \\18x &= 37 \\x &= 2.06\end{aligned}$$

9. Simplify:

$$\begin{aligned}6(-8x - 1) &= 2(5 - 3x) \\-48x - 6 &= 10 - 15x \\-48x + 15x &= 10 + 6 \\-33x &= 16 \\x &= -0.48\end{aligned}$$

10. Simplify:

$$\begin{aligned}7(6x - 10) &= 3(-4x + 8) \\42x - 70 &= -12x + 24 \\42x + 12x &= 24 + 70 \\54x &= 94 \\x &= 1.74\end{aligned}$$