



Simplifying Linear Equations

Grade 8 Linear Equations Worksheet

Date: _____

Name: _____

LET'S MAKE LEARNING LINEAR EQUATIONS FUN

Simplify the following Linear Equations

1. $4x + 3(3x + 7) = 86$

2. $3x + 4(x + 6) = 59$

3. $2x + 2(3x + 5) = 82$

4. $6x + 3(3x - 4) = 63$

5. $4(-8x + 5) = -30x - 26$

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

7. $-5x + 3 = 2x + 8$

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

9. $4n - 4 = 7(-2n + 2)$

10. $4(3x + 5) = 2$



Simplifying Linear Equations

Answers

1. Simplify:

$$\begin{aligned}4x + 3(3x + 7) &= 86 \\4x + 9x + 21 &= 86 \\4x + 9x &= 86 - 21 \\13x &= 65 \\x &= 5\end{aligned}$$

2. Simplify:

$$\begin{aligned}3x + 4(x + 6) &= 59 \\3x + 4x + 24 &= 59 \\7x &= 59 - 24 \\7x &= 35 \\x &= 5\end{aligned}$$

3. Simplify:

$$\begin{aligned}2x + 2(3x + 5) &= 82 \\2x + 6x + 10 &= 82 \\8x &= 82 - 10 \\8x &= 72 \\x &= 9\end{aligned}$$

4. Simplify:

$$\begin{aligned}6x + 3(3x - 4) &= 63 \\6x + 9x - 12 &= 63 \\15x &= 63 + 12 \\15x &= 75 \\x &= 5\end{aligned}$$

5. Simplify:

$$\begin{aligned}4(-8x + 5) &= -30x - 26 \\-32x + 20 &= -30x - 26 \\-32x + 30x &= -26 - 20 \\-2x &= -46 \\x &= 23\end{aligned}$$

6. Simplify:

$$\begin{aligned}-(x + 2) &= 2(3x - 4) \\-x - 2 &= 6x - 8 \\6x + x &= -2 + 8 \\7x &= 6 \\x &= 0.86\end{aligned}$$

7. Simplify:

$$\begin{aligned}-5x + 3 &= 2x + 8 \\-5x + 3 &= 2x + 8 \\-5x - 2x &= 8 - 3 \\-7x &= 5 \\x &= -0.71\end{aligned}$$

8. Simplify:

$$\begin{aligned}4(x - 2) + 5 - 3x &= 3 \\4x - 8 + 5 - 3x &= 3 \\4x - 3x &= 3 + 8 - 5 \\x &= 6\end{aligned}$$

9. Simplify:

$$\begin{aligned}4n - 4 &= 7(-2n + 2) \\4n - 4 &= -14n + 14 \\4n + 14n &= 14 + 4 \\-18n &= 18 \\n &= 1\end{aligned}$$

10. Simplify:

$$4(3x + 5) = 2$$

$$12x + 20 = 2$$

$$12x = 2 - 20$$

$$12x = -18$$

$$x = -1.5$$