

MAT 104 Quiz 1
Monday, September 6, 2004

1. Simplify the following expression:

$$2(x - y) - 4(x + y)$$

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

2. Solve the following linear equation:

$$-3(1 - 4x) - 2(2x - 1) = 12x$$

$$\begin{aligned} -3(1 - 4x) - 2(2x - 1) = 12x &\iff -3 + 12x - 4x + 2 = 12x \\ &\iff -1 + 8x = 12x \\ &\iff -1 = 4x \\ &\iff x = -\frac{1}{4} \end{aligned}$$

3. Solve the following linear equation:

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

$$\begin{aligned} 2(x - 4) + 2 = 3(x + 4) &\iff 2x - 8 + 2 = 3x + 12 \\ &\iff 2x - 6 = 3x + 12 \\ &\iff x = -18 \end{aligned}$$