

Course: MFM2P Gr. 10 AppliedLesson: 4 - 1Unit: Linear EquationsTopic: Prerequisite Skills

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✚ *homework check:* none✚ *note:* Prerequisite Skills

There are several useful skills that are necessary when working with equations. Remembering integer rules, order of operations, collecting like terms and distributive property are important to success. For example, simplify each of the following.

a)

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

b)

$$\begin{aligned} & 2(3 - 5) - 3(7 - 4) = \\ & = 2(-2) - 3(3) \\ & = -4 - 9 \\ & = -13 \end{aligned}$$

c)

$$\begin{aligned} & 3a + 3b - 5 - 2a - 4b + 2 = \\ & = 3a - 2a + 3b - 4b - 5 + 2 \\ & = a - b - 3 \end{aligned}$$

d)

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

e)

$$\begin{aligned} & -3(x - 2) + 2(x - 1) = \\ & = -3x + 6 + 2x - 2 \\ & = -3x + 2x + 6 - 2 \\ & = -x + 4 \end{aligned}$$

If  $x = -2$  and  $y = 3$ , find

f)

$$\begin{aligned}2x + 3y &= \\&= 2(-2) + 3(3) \\&= -4 + 9 \\&= 5\end{aligned}$$

g)

$$\begin{aligned}\frac{x}{6} + \frac{2y}{3} &= \\&= \frac{(-2)}{6} + \frac{2(3)}{3} \\&= \frac{-1}{3} + \frac{6}{3} \\&= \frac{5}{3} \text{ or } 1\frac{2}{3}\end{aligned}$$

**✚ homework assignment: Lesson 4 - 1**

**Lesson 4 – 1: Prerequisite Skills****1. Find the lowest common denominator for each pair.**

a)  $\frac{1}{4}, \frac{5}{6}$

b)  $\frac{2}{3}, \frac{3}{5}$

c)  $\frac{1}{3}, \frac{1}{2}$

d)  $\frac{3}{10}, \frac{5}{8}$

**2. Simplify each of the following, then evaluate.**

a)  $4 + (-3) - (-5) + (+3) - 6 =$

b)  $1 - (-2) + (-2) - 4 + 2 =$

c)  $-3 - (-1) + (-4) + 5 + 3 - 4 =$

d)  $-5 + (-2) + (+3) + 2 - 4 + (-3) =$

**3. Simplify by collecting like terms.**

a)  $3 - 3x + 4y + 5x - 2y - 2 =$

b)  $7y - 3 - 4y + 2 =$

c)  $2 + 3x - 5 + x =$

d)  $5 + 3x + 3y - 2x - y - 1 =$

e)  $k - 5t - 6k + 2t =$

**4. Expand and simplify using Distributive Property.**

a)  $3(x+2) =$

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

c)  $8(p-q) - 3(p+2q) =$

d)  $5(k-1) - 2(2k-5) =$

e)  $-2(x-1) - 4(2x+5) =$

f)  $4(3x+7) - 2(2-4x) =$

**5. Evaluate each of the following using  $x = 2$  and  $y = -3$ .**

a)  $4x + 3y =$

b)  $-7y + x =$

c)  $2x - 3y =$

d)  $2x + 3xy - y =$

e)  $xy + 2x - 3y =$

f)  $\frac{2x+y}{2} + \frac{x-2y}{3} =$

**6. Solve each of the following.**

a)  $x - 3 = -7$

b)  $2x - 1 = -3$

c)  $-2(x+3) = -8$

d)  $-3x - 2 = 10$

e)  $5(x-3) = -10$

f)  $2(2x-1) = 6$