

## **Grade 10**

### **Mathematics**

#### **Equations**

##### **LINEAR EQUATIONS**

###### **Example 1**

Solve the following equations.

- a.  $2y - 3 = 7$
- b.  $2c = c - 8$
- c.  $3 = 1 - 2c$
- d.  $4b + 5 = -7$
- e.  $-3y = 0$
- f.  $16y + 4 = -10$

#### **Answers**

a.  $2y - 3 = 7$   
 $2y = 7 + 3$   
 $2y = 10$   
 $y = \frac{10}{2} = 5$

b.

$$\begin{aligned} 2c &= c - 8 \\ c &= -8 \end{aligned}$$

c.

$$\begin{aligned} 3 &= 1 - 2c \\ 2c &= 1 - (3) \\ 2c &= -2 \\ c &= \frac{-2}{2} \\ &= -1 \end{aligned}$$

d.

$$\begin{aligned} 4b + 5 &= -7 \\ 4b &= -7 - (5) \\ 4b &= -12 \\ b &= \frac{-12}{4} \\ &= -3 \end{aligned}$$

e.

$$\begin{aligned} -3y &= 0 \\ y &= 0 \end{aligned}$$

f.

$$\begin{aligned} 16y + 4 &= -10 \\ 16y &= -14 \\ y &= -\frac{14}{16} \\ &= -\frac{7}{8} \end{aligned}$$

**Example 2****Solve the following Equations**

a.

$$12 - 6x + 34x = 2x - 24 - 64$$

**Solution:**

$$\begin{aligned}12 - 6x + 34x &= 2x - 24 - 64 \\12 + 28x &= 2x - 88 \\26x &= -100 \\x &= -\frac{100}{26} \\&= -\frac{50}{13}\end{aligned}$$

b.

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

**Solution:**

$$\begin{aligned}6x + 3x &= 4 - 5(2x - 3) \\9x &= 4 - 10x + 15 \\19x &= 19 \\x &= 1\end{aligned}$$

c.

$$18 - 2p = p + 9$$

**Solution:**

$$\begin{aligned}18 - 2p &= p + 9 \\9 &= 3p \\p &= 3\end{aligned}$$

d.

$$\frac{4}{p} = \frac{16}{24}$$

**Solution:**

$$\begin{aligned}\frac{4}{p} &= \frac{16}{24} \\(4)(24) &= (16)(p) \\16p &= 96 \\p &= 6\end{aligned}$$