

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.

$$2c = c - 8$$
$$c = -8$$

c.

$$3 = 1 - 2c$$
$$2c = 1 - (3)$$
$$2c = -2$$
$$c = \frac{-2}{2}$$
$$= -1$$

d.

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

e.

$$-3y = 0$$
$$y = 0$$

f.

$$16y + 4 = -10$$
$$16y = -14$$
$$y = -\frac{14}{16}$$
$$= -\frac{7}{8}$$

Example 2

Solve the following Equations

a.

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

Solution:

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

$$12 + 28x = 2x - 88$$

$$26x = -100$$

$$x = -\frac{100}{26}$$

$$= -\frac{50}{13}$$

b.

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

Solution:

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

$$9x = 4 - 10x + 15$$

$$19x = 19$$

$$x = 1$$

c.

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

Solution:

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

$$9 = 3p$$

$$p = 3$$

d.

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

Solution:

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

$$(4)(24) = (16)(p)$$

$$16p = 96$$

$$p = 6$$