

Linear equation Exercise -1

Question1:

The cost of a notebook is twice the cost of a pen. Write a linear equation in two variables to represent this statement.

(Take the cost of a notebook to be Rs x and that of a pen to be Rs y.)

Solution:

Let cost of notebook and a pen be x and y respectively.

Cost of note book = 2 cost of pen

$$x = 2y$$

$$x - 2y = 0$$

Question 2:

Express the following linear equations in the form $ax + by + c = 0$ and indicate the values of a, b, c in each case:

(i) $2x + 3y = 9.3555555555...$

(ii) $x - (y/5) - 10 = 0$

(iii) $-2x + 3y = 6$

(iv) $x = 3y$

(v) $2x = -5y$

(vi) $3x + 2 = 0$

(vii) $y - 2 = 0$

(viii) $5 = 2x$

Solution:

(i) $2x + 3y = 9.3555555555....$

$$\Rightarrow 2x + 3y - 9.3555555555.... = 0$$

Comparing this equation with $ax + by + c = 0$,

$$a = 2, b = 3, c = -9.355....$$

(ii) $x - (y/5) - 10 = 0$

Comparing this equation with $ax + by + c = 0$,

$$a = 1, b = -1/5, c = -10$$

(iii) $-2x + 3y = 6$

$$\Rightarrow -2x + 3y - 6 = 0$$

This material is created by <http://physicscatalyst.com/> and is for your personal and non-commercial use only.

Comparing this equation with $ax + by + c = 0$,
 $a = -2, b = 3, c = -6$

(iv) $x = 3y$
 $\Rightarrow x - 3y + 0 = 0$

Comparing this equation with $ax + by + c = 0$,
 $a = 1, b = -3, c = 0$

(v) $2x = -5y$
 $\Rightarrow 2x + 5y + 0 = 0$

Comparing this equation with $ax + by + c = 0$,
 $a = 2, b = 5, c = 0$

(vi) $3x + 2 = 0$
 $\Rightarrow 3x + 0.y + 2 = 0$

Comparing this equation with $ax + by + c = 0$,
 $a = 3, b = 0, c = 2$

(vii) $y - 2 = 0$
 $\Rightarrow y - 2 = 0$

Comparing this equation with $ax + by + c = 0$,
 $a = 0, b = 1, c = -2$

(viii) $5 = 2x$
 $\Rightarrow -2x + 5 = 0$

Comparing this equation with $ax + by + c = 0$,
 $a = -2, b = 0, c = 5$