Training exercises sheet :

Resolve the following equations.

Exercise 1

$(E_1) : 12x - 2 = -8$
$(E_2) : 2 - 7x = -11$
$(E_3) : 16x - 17 = 15$
$(E_4) : 5 = 13 + 6x$
$(E_5) : -16 = -17 + 7x$
$(E_6) : -15 = -14x - 15$

Exercise 2

$(E_1) : 12 + 6x = 14x - 7$
$(E_2) : 13x + 9 = 12x$
$(E_3) : 3x - 2 = 4x - 14$
$(E_4) : -4 = -x - 3$
$(E_5) : -9 - 7x = 3x$
$(E_6) : -14x + 5 = -9 + 10x$

Examples of answers

Exercise 1

(E_1) :

$$12x - 2 = -8$$

$$12x = -8 + 2$$

$$12x = -6$$

$$x = -\frac{6}{12}$$

$$x = -\frac{\cancel{6}}{\cancel{6} \times 2}$$

$$x = -\frac{1}{2}$$

(E_2) :

$$2 - 7x = -11$$

$$-7x = -11 - 2$$

$$-7x = -13$$

$$x = \frac{13}{7}$$

(E_3) :

$$16x - 17 = 15$$

$$16x = 15 + 17$$

$$16x = 32$$

$$x = \frac{32}{16}$$

$$x = \frac{\cancel{16} \times 2}{\cancel{16}}$$

$$x = \frac{2}{1}$$

$$x = 2$$

(E_4) :

$$5 = 13 + 6x$$

$$13 + 6x = 5$$

$$6x = 5 - 13$$

$$6x = -8$$

$$x = -\frac{8}{6}$$

$$x = -\frac{\cancel{2} \times 4}{\cancel{2} \times 3}$$

$$x = -\frac{4}{3}$$

(E_5) :

$$-16 = -17 + 7x$$

$$-17 + 7x = -16$$

$$7x = -16 + 17$$

$$7x = 1$$

$$x = \frac{1}{7}$$

(E_6) :

$$-15 = -14x - 15$$

$$-14x - 15 = -15$$

$$-14x = -15 + 15$$

$$-14x = 0$$

$$x = -\frac{0}{14}$$

$$x = 0$$

Exercise 2

(E_1) :

$$12 + 6x = 14x - 7$$

$$6x - 14x = -7 - 12$$

$$-8x = -19$$

$$x = \frac{19}{8}$$

(E_2) :

$$13x + 9 = 12x$$

$$13x - 12x = -9$$

$$x = -9$$

(E_3) :

$$3x - 2 = 4x - 14$$

$$3x - 4x = -14 + 2$$

$$-x = -12$$

$$x = 12$$

(E_4) :

$$-4 = -x - 3$$

$$-x - 3 = -4$$

$$-x = -4 + 3$$

$$-x = -1$$

$$x = 1$$

(E_5) :

$$-9 - 7x = 3x$$

$$-7x - 3x = 9$$

$$-10x = 9$$

$$x = -\frac{9}{10}$$

(E_6) :

$$-14x + 5 = -9 + 10x$$

$$-14x - 10x = -9 - 5$$

$$-24x = -14$$

$$x = \frac{14}{24}$$

$$x = \frac{\cancel{2} \times 7}{\cancel{2} \times 12}$$

$$x = \frac{7}{12}$$