Linear Inequations Ex 15.2 Q1

Consider the first inequation,

$$x + 3 > 0$$
$$x > -3 \quad \ldots(i)$$

Consider the second inequation,

$$2x < 14$$
$$x < \frac{14}{2} = 7$$
$$x < 7 \quad \ldots(ii)$$

From (i) and (ii), $(-3, 7)$ is the solution set of the simultaneous equations.

Linear Inequations Ex 15.2 Q2

Consider the first inequation,

$$2x - 7 > 5 - x$$
$$\Rightarrow \quad 2x + x > 5 + 7$$
$$\Rightarrow \quad 3x > 12$$
$$\Rightarrow \quad x > \frac{12}{3}$$
$$\Rightarrow \quad x > 4 \quad \ldots\ldots\ldots\ldots\ldots(i)$$

Consider the second inequation,

$$11 - 5x \leq 1$$
$$\Rightarrow \quad -5x \leq 1 - 11$$
$$\Rightarrow \quad -5x \leq -10$$
$$\Rightarrow \quad 5x \geq 10$$
$$\Rightarrow \quad x \geq 2 \ldots\ldots\ldots\ldots(ii)$$

From (i) and (ii), $(4, \infty)$ is the solution set of the simultaneous equations.

Linear Inequations Ex 15.2 Q3

Consider the first inequation,

$$x - 2 > 0$$
$$x > 2 \quad \ldots(i)$$

Consider the second inequation,

$$3x < 18$$
$$x < 6 \quad \ldots(ii)$$

From (i) and (ii), $(2, 6)$ is the solution set of the simultaneous equations.

Linear Inequations Ex 15.2 Q4

Consider the first inequation,

$$2x + 6 \geq 0$$
$$2x \geq -6$$
$$x \geq \frac{-6}{2}$$
$$x \geq -3 \qquad \ldots(i)$$

Consider the second inequation,

$$4x - 7 < 0$$
$$4x < 7$$
$$x < \frac{7}{4} \qquad \ldots(ii)$$

From (i) and (ii), $\left[-3, \frac{7}{4}\right]$ is the solution set of the simultaneous equations.

********** END **********