Linear Inequations Ex 15.2 Q12

Consider the first inequation,

$$x + 5 > 2(x + 1)$$
$$x > 2x + 2 - 5$$
$$x > 2x - 3$$
$$x - 2 > -3$$
$$-x > -3$$
$$x < 3 \qquad \ldots(i)$$

Consider the second inequation,

$$2 - x < 3(x + 2)$$
$$2 - x < 3x + 6$$
$$-x - 3x < 6 - 2$$
$$-4x < 4$$
$$x > -1 \qquad \ldots(ii)$$

From (i) and (ii), $(-1, 3)$ is the solution set of the simultaneous equations.

Linear Inequations Ex 15.2 Q13

Consider the first inequation,

$$2(x - 6) < 3x - 7$$
$$\Rightarrow 2x - 12 < 3x - 7$$
$$\Rightarrow -5 < x \qquad \ldots(i)$$

Consider the second inequation,

$$11 - 2x < 6 - x$$
$$-2x + x < 6 - 11$$
$$-x < -5$$
$$x > 5 \qquad \ldots(ii)$$

From (i) and (ii), $(5, \infty)$ is the solution set of the simultaneous equations.

Linear Inequations Ex 15.2 Q14

Consider the first inequation,

$$5x - 7 < 3(x + 3)$$
$$5x - 7 < 3x + 9$$
$$5x - 3x < 9 + 7$$
$$2x < 16$$
$$x < 8 \qquad \ldots(i)$$

Consider the second inequation,

$$1 - \frac{3x}{2} \geq x - 4$$
$$\frac{-3x}{2} - x \geq -4 - 1$$
$$\frac{-3x - 2x}{2} \geq -5$$
$$-5x > -10$$
$$x \leq 2 \qquad \ldots(ii)$$

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

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