



Linear Inequations Ex 15.2 Q12

Consider the first inequation,

$$\begin{aligned}x + 5 &> 2(x + 1) \\x &> 2x + 2 - 5 \\x &> 2x - 3 \\x - 2 &> -3 \\-x &> -3 \\x &< 3 \quad \dots (i)\end{aligned}$$

Consider the second inequation,

$$\begin{aligned}2 - x &< 3(x + 2) \\2 - x &< 3x + 6 \\-x - 3x &< 6 - 2 \\-4x &< 4 \\x &> -1 \quad \dots (ii)\end{aligned}$$

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

Linear Inequations Ex 15.2 Q13

Consider the first inequation,

$$\begin{aligned}2(x - 6) &< 3x - 7 \\\Rightarrow 2x - 12 &< 3x - 7 \\\Rightarrow -5 &< x \quad \dots (i)\end{aligned}$$

Consider the second inequation,

$$\begin{aligned}11 - 2x &< 6 - x \\-2x + x &< 6 - 11 \\-x &< -5 \\x &> 5 \quad \dots (ii)\end{aligned}$$

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

Linear Inequations Ex 15.2 Q14

Consider the first inequation,

$$\begin{aligned}5x - 7 &< 3(x + 3) \\5x - 7 &< 3x + 9 \\5x - 3x &< 9 + 7 \\2x &< 16 \\x &< 8 \quad \dots (i)\end{aligned}$$

Consider the second inequation,

$$\begin{aligned}1 - \frac{3x}{2} &\geq x - 4 \\\frac{-3x}{2} - x &\geq -4 - 1 \\\frac{-3x - 2x}{2} &\geq -5 \\-5x &\geq -10 \\x &\leq 2 \quad \dots (ii)\end{aligned}$$

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

***** END *****

