

## Inequalities

- Find the set of values of  $x$  which satisfy the inequality  $2 - 2x < \frac{2}{3}x + \frac{1}{6}$
- Find the solution set of the inequality  $2x^2 - 5x - 3 > 0$
- Find the solution set of the inequality  $x^2 - 2x - 15 \leq 0$
- Find the solution set of the inequality  $(x + 1)(2x - 3)(4 - x) \geq 0$
- Find the solution set of the inequality  $(2x + 1)(x - 2)^2 < 0$
- Find the set of values of  $x$  which satisfy each of the following inequalities.
  - $|x - 3| < 4$
  - $|2 - 5x| \geq 3$
  - $|3x + 2| \leq x - 1$
  - $|2x - 7| > 4 - x$
- Find the solution set for each of the following inequalities
  - $x^2 < 9$
  - $x^2 - 5 \geq 0$
  - $(x - 1)^2 \leq 8$
  - $(x + 2)^2 - 5 > 0$
  - $(x + 1)^2 + 2 > 0$
- Find the solution set for each of the following inequalities
  - $x^2 - 2x - 4 \leq 0$
  - $2x^2 + x \geq 4$
  - $x^2 + 2x + 5 > 0$
  - $(x + 1)(x^2 + x + 1) < 0$
  - $(2x - 1)(x^2 - 2x - 1) \leq 0$
  - $(x - 1)(3 - x)(x^2 + x + 2) > 0$
- Find the solution set for each of the following inequalities
  - $|x - 4| > |2x - 1|$
  - $|x^2 + 1| < |x^2 - 9|$
  - $\left| \frac{3x-2}{x+2} \right| < 2$
- Find the solution for each of the following inequalities.
  - $\frac{13-4x}{x+2} < 0$
  - $\frac{(x+8)}{(x+2)(x-3)} > 0$
  - $\frac{4}{x+3} < 2 - x$
  - $\frac{x-1}{x+3} < \frac{x}{6}$
  - $\frac{(x-1)^2}{(2x+1)(2-x)} < 0$
  - $\frac{x^2+2x+2}{4x-3} < 0$