

## Inequalities

Solve, graph on a number line, and write your answer in interval notation:

- 1.)  $2x + 3 > 4x - 5$
- 2.)  $2 - (3x + 4) \leq 2(x + 4) + 2x$
- 3.)  $-2 < \frac{x+2}{3} < 4$
- 4.)  $2 \leq \frac{2-x}{-3} \leq 4$
- 5.)  $\frac{1}{5}x + \frac{2}{3} > x - \frac{5}{2}$
- 6.)  $\frac{2}{3}\left(x - \frac{1}{2}\right) \leq \frac{5}{6}\left(\frac{4}{5} - x\right)$
- 7.)  $x^2 + 4x - 12 > 0$
- 8.)  $x^2 + 7 < 0$
- 9.)  $x(x + 1) > 12$
- 10.)  $(x + 1)(x - 2) \leq 4$
- 11.)  $x(3x - 1) \leq 2$
- 12.)  $\frac{x+1}{x} > 0$
- 13.)  $\frac{4}{x+2} \geq 1$
- 14.)  $\frac{x+1}{x-1} \leq 2$
- 15.)  $|2x + 1| > 6$
- 16.)  $4|3 - x| + 1 < 9$
- 17.)  $2 - 3|2x + 1| \geq -1$
- 18.)  $1 - 4|1 - 2x| > -7$