

Solving Linear Inequalities

Solve these inequalities.

- (a) $x + 5 > 11$
- (b) $x + 11 < 5$
- (c) $2x - 5 \geq 11$
- (d) $5 + 2x < 11$
- (e) $5x - 1 \leq 19$
- (f) $4 - 5x < 19$

- (a) $x > 6$
- (b) $x < -6$
- (c) $x \geq 8$
- (d) $x < 3$
- (e) $x \leq 4$
- (f) $x > -5$

Solve these inequalities.

- (a) $6x + 3 > 2x + 19$
- (b) $x - 3 \leq 6x + 17$
- (c) $7 - x < 3(x - 3)$
- (d) $3(x + 3) \geq 4x + 5$

- (a) $x > 4$
- (b) $x \geq -4$
- (c) $x > 4$
- (d) $x \leq 4$

Solve these inequalities.

- (a) $-5 < 5x < 25$
- (b) $4 \leq 3x + 1 < 12$
- (c) $2x < 3x + 1 \leq 13$
- (d) $2x + 2 < 4x + 5 < 3x + 7$

- (a) $-1 < x < 5$
- (b) $1 \leq x < \frac{11}{3}$
- (c) $-1 < x \leq 4$
- (d) $-\frac{3}{2} < x < 2$

The perimeter of a regular pentagon of side $(x + 2)$ is greater than the side of an equilateral triangle of side $(x + 6)$. Solve the inequality to find a possible range of values for x .

$$\begin{aligned}5(x+2) &> 3(x+6) \\2x &> 8 \\x &> 4\end{aligned}$$

Megan bought seven crates of apple juice and Adil bought four crates of apple juice. Each crate contained the same number of bottles of apple juice.

When Megan gave Adil ten bottles of juice, Adil then had more bottles than Megan.

Find the maximum number of bottles of apple juice in a crate.

$$\begin{aligned}7x - 10 &< 4x + 10 \\3x &< 20 \\x &< \frac{20}{3}\end{aligned}$$

Maximum bottles = 6