

$A \leq B \Leftrightarrow A+C \leq B+C$  $x - 3 > 2$ $\quad +3 \quad +3$  $x > 5$	Adding don't swap	Adding the same quantity to each side of an inequality gives an equivalent inequality.
$A \leq B \Leftrightarrow A-C \leq B-C$  $x + 3 > 2$ $\quad -3 \quad -3$  $x > -1$	Subtracting don't swap	Subtracting the same quantity from each side of an inequality gives an equivalent inequality.
If $C > 0$ , then $A \leq B \Leftrightarrow CA \leq CB$  $3x > 2$ $\frac{x}{3} > 2$ $\frac{3x}{3} > \frac{2}{3}$ $\frac{3x}{3} > 2 \cdot 3$  $x > \frac{2}{3}$ $x > 6$	Positive multiply or divide don't swap	Multiplying each side of an inequality by the same positive quantity gives an equivalent inequality.
If $C < 0$ , then $A \leq B \Leftrightarrow CA \geq CB$  $-3x > 2$ $-\frac{x}{3} > 2$ $\frac{-3x}{-3} < \frac{2}{-3}$ $\rightarrow (-\frac{x}{3}) > 2 \cdot (-3)$  $x < -\frac{2}{3}$ $x < -6$	Negative multiply or divide SWAP	Multiplying each side of an inequality by the same negative quantity reverses the direction of the inequality.
If $A > 0$ and $B > 0$ , then $A \leq B \Leftrightarrow 1/A \geq 1/B$  $\frac{1}{x} > \frac{1}{2}$  $x < 2$	Reciprocal SWAP	Taking reciprocals of each side of an inequality involving positive quantities reverses the direction of the inequality.
If $A \leq B$ and $C \leq D$ , then $A+C \leq B+D$		Inequalities can be added.
If $A \leq B$ and $B \leq C$ , then $A \leq C$		Inequality is transitive.