

1. Solve. $|2x + 11| \geq 23$

$$\begin{array}{rcl} 2x + 11 & \leq & -23 \\ -11 & -11 & \end{array} \quad \begin{array}{rcl} 2x + 11 & \geq & 23 \\ -11 & -11 & \end{array}$$

$$\begin{array}{rcl} 2x & \leq & -34 \\ \frac{2x}{2} & \leq & \frac{-34}{2} \end{array} \quad \begin{array}{rcl} 2x & \geq & 12 \\ \frac{2x}{2} & \geq & \frac{12}{2} \end{array}$$

$x \leq -17$ OR $x \geq 6$

2. Solve each compound inequality. Give the answer as a single inequality if possible.

a) $m < 3$ or $4 - 3m \leq 10$

$$\begin{array}{rcl} 4 - 3m & \leq & 10 \\ -4 & -4 & \\ -3m & \leq & 6 \\ \frac{-3m}{-3} & \leq & \frac{6}{-3} \\ m & \geq & -2 \end{array}$$

$m < 3$ OR $m \geq -2$

b) $k \geq 4$ and $3k - 1 > 22$

$$\begin{array}{rcl} 3k - 1 & > & 22 \\ +1 & +1 & \\ 3k & > & 23 \\ \frac{3k}{3} & > & \frac{23}{3} \\ k & > & \frac{23}{3} \end{array}$$

$k \geq 4$ AND $k > \frac{23}{3}$

3. Solve for A . State restrictions on the variables.

a) $\frac{AB + WC}{AB} = \frac{AX - AB}{AB}$

$$\frac{WC}{AB} = \frac{A(X - B)}{AB}$$

$$\frac{WC}{X - B} = A$$

$X - B \neq 0$
or
 $X \neq B$

b) $\frac{M + AR}{C} - E = H$

$$\begin{array}{rcl} C \cdot \frac{M + AR}{C} & = & H + E \\ M + AR & = & C(H + E) \\ -M & -M & \\ AR & = & C(H + E) - M \\ \frac{AR}{R} & = & \frac{C(H + E) - M}{R} \end{array}$$

$$A = \frac{C(H + E) - M}{R}$$

$C \neq 0$
 $R \neq 0$