

## 5-5 Solving Multi-Step Inequalities

Ex. 1 Solve:  $5(h - 2) = 15$

$$\begin{aligned} 5h - 10 &= 15 & h &= 5 \\ +10 & \quad +10 & & \\ \hline 5h &= 25 & & \\ \frac{5h}{5} &= \frac{25}{5} & & \end{aligned}$$

Solve:  $3(x + 5) = 18$

$$\begin{aligned} 3x + 15 &= 18 & 3x &= 3 \\ -15 & \quad -15 & \frac{3x}{3} &= \frac{3}{3} \\ \hline 3x &= 3 & x &= 1 \end{aligned}$$

Ex. 2 Solve:  $2(x - 4) > 11$

$$\begin{array}{r} 2x - 8 > 11 \\ +8 \quad +8 \\ \hline 2x > 19 \\ \frac{2x}{2} > \frac{19}{2} \quad x > 9.5 \end{array}$$

Solve:  $6(y + 8) < 30$

$$\begin{array}{r} 6y + 48 < 30 \\ -48 \quad -48 \\ \hline 6y < -18 \\ \frac{6y}{6} < \frac{-18}{6} \end{array} \quad y < -3$$



Ex. 4 Special cases

Solve:  $3(4x - 2) + 15 = 12x + 9$

$$12x - 6 + 15 = 12x + 9$$

$$12x + 9 = 12x + 9$$

Infinite  
Solutions  
Identity

Solve:  $7y - 8 = 3(2y + 4) + y$

$$7y - 8 = 6y + 12 + y$$

$$7y - 8 = 7y + 12$$

$$\begin{array}{r} -7y \\ \hline -8 = 12 \end{array}$$

No Solutions  
 ~~$-8 = 12$~~

Homework

p.251

#1-17 odds