6.5 Solving Linear Inequalities by Using Multiplication & Division
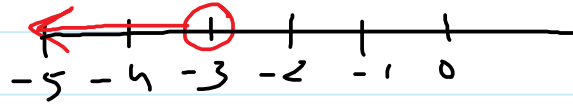
May 29, 2015   9:09 AM

Solve just like equations
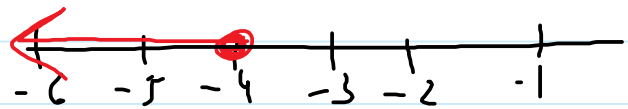
(a) $\dfrac{4x}{4} < \dfrac{-12}{4}$

$\boxed{x < -3}$

(b) $\dfrac{-2c}{-2} \geq \dfrac{8}{-2}$

$\boxed{c \leq -4}$

* when dividing by a negative, reverse the inequality sign

(c) $\dfrac{b}{2} {}^{\times 2} \leq 3 \times 2$

$\boxed{b \leq 6}$

(d) $\dfrac{v}{-3} {}^{\times -3} > 4 \times -3$

$\boxed{v < -12}$

same rule applies when multiplying

Ex. #2 Solving multi-step

(a) $\cancel{1} - \dfrac{2}{3}x > 3 \quad -1$

$\quad -1$

$-\dfrac{2}{3}x {}^{\times -3} > 2x - 3$

(b) $-3x - \cancel{10} \leq 5x + 38$

$\quad +10 \qquad +10$

$-3x \leq 5\cancel{x} + 48$

$-5x \quad -5x$

$$\frac{2}{3}x > 2x - 3$$

$$\frac{2}{2}x < \frac{-6}{2}$$

$$\boxed{x < -3}$$

$$-3x \le 5x + 48$$
$$-5x \quad -5x$$

$$\frac{-8x}{-8} \le \frac{48}{-8}$$

$$\boxed{x \ge -6}$$

pg 305 # 3, 4, 7, 9, 11, 12, 16, 17