Ch 6: Solving Equation

Examples:

Solve for x

1) $7 - 6x = 85$ (-7 -7)

$\frac{-6x}{-6} = \frac{78}{-6}$

$x = -13$

"x" on opposite sides

2) $\frac{-6x}{4} + 7 = \frac{4}{5}$ (·20 ·20 ·20) 3)

$-30x + 140 = 16$ (-140 -140)

$\frac{-30x}{-30} = \frac{-124}{-30}$

$x = \frac{62}{15}$

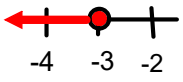
Fraction multiply by the common denominator

$10x + 4 \leq -2x - 32$ (+2x +2x)

$12x + 4 \leq -32$ (-4 -4)

$\frac{12x}{12} \leq \frac{-36}{12}$

$x \leq -3$



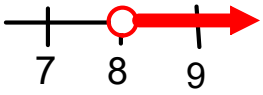
Brackets

4) $6(x-3) > 30$

$6x - 18 > 30$ (+18 +18)

$\frac{6x}{6} > \frac{48}{6}$

$x > 8$



5) Bracket and Fractions

$\frac{2(x+3)}{3} = 5(x-1)$

$\frac{2x}{3} + \frac{6}{3} = 5x - 5$ (×3 ×3 ×3 ×3)

$2x + 6 = 15x - 15$ (-2x -2x)

$6 = 13x - 15$ (+15 +15)

$\frac{21}{13} = \frac{13x}{13}$

$\frac{21}{13} = x$

6) Negative inequalties

$\frac{-3x}{-3} < \frac{12}{-3}$

NOTICE INQUALITY CHANGED

$x > -4$