

Name: _____

Equations & Inequalities Study Guide

Solve each equation. Show your work.

1) $4x + 7 = 47$

2) $\frac{x}{4} + 18 = 30$

3) $3 - 2x = 23$

4) $-3 + \frac{x}{-4} = 1$

5) $4x + 3x + 8 = 50$

6) $10x - 19 - 4x = 11$

7) $14x - 4x + 8 = 2(5x + 4)$

8) $-2x - 6x + 9 = 65$

$$9) \quad -x + 6x = 40$$

$$10) \quad 6x + 2x + 8 = 4(2x + 5)$$

$$11) \quad 6(x + 5) = 60$$

$$12) \quad 2(4x - 1) = 62$$

$$13) \quad 2(x + 7) = 2x + 8$$

$$14) \quad -3(x + 4) = 9$$

$$15) \quad -(2x - 3) = 24$$

$$16) \quad 3(x - 2) = 3x - 6$$

$$17) \quad 6x + 4 = 2x + 48$$

$$18) \quad 5x - 4 = -x + 32$$

$$19) \quad 2x + 11 = -6x + 43$$

$$20) \quad -3x - 9 = -x + 5$$

Solve the inequalities. Then graph the solution on the number line.

$$1) \quad x + 6 < -4$$

$$2) \quad x - 7 > 0$$



$$3) \quad 9x \leq 45$$

$$4) \quad -8x < 56$$



$$5) \quad \frac{x}{7} \geq 4$$



$$6) \quad \frac{x}{-3} \geq 8$$



$$7) \quad 3x - 8 > 16$$



$$8) \quad -10x - 6 < 44$$



$$9) \quad \frac{x}{9} + 5 \geq 12$$



$$10) \quad \frac{x}{-6} - 7 \geq 3$$

