Name:_____

**Unit 3 Equations and Inequalities**
**Test Review**

**Solve the following Equations. SHOW WORK**

1) $5x + 6 = -4$

2) $-\frac{x}{3} + 5 = 7$

3) $\frac{17 - x}{4} = -10$

4) $5x - 9 = -3x + 7$

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

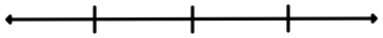
6) $4(x - 2) = 4x$

7) $9(x + 1) = 3(x + 3)$

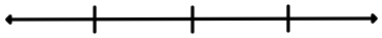
8) $4(2x - 1) = -10(x - 5)$

**Solve each inequality and graph the solution set.**

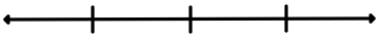
9) $3x \leq 2x - 5$



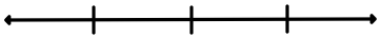
10) $-\frac{x}{5} > -7$



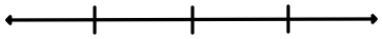
11) $9x + 15 \leq 24 + 10x$



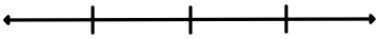
12) $7x - 1 + 3x \leq 29$



13) $3(x - 4) > 15$



14) $-5(x + 4) > 3(x - 4)$



**Solve each linear equation for y.**

15) $-3x + y = 8$

16) $9x + 3y = 12$

17) $x - 2y = 5$

18) $2x - y = -3$

**Solve each for the indicated variable.**

19) $W = 2V + e$; for $V$

20) $G = \frac{1}{4}st$; for $t$

21) $z = \frac{r - s}{f}$; for $f$

22) $3d = -2d - c$; for $d$

**Word problems: Write an equation or inequality for each sentence then <u>solve</u>.**

23) Three less than four times a number is equal to the sum of the same number and nine.

24) Twice the sum of a number and four is two.

25) The base of a triangle is twice the height. The area is equal to nine. ($A = \frac{1}{2}bh$)

26) The product of a number and four is at most 16.

27) The perimeter of a triangle is 16 inches. The length is two more than the width.

28) Ten more than five times a number is at least 75.