Name: _____

Linear Equations

Exercise 1: Solve each of the following equations and check the solution.

1) $3x - 9 = x + 1$

2) $7x + 7 = 42$

3) $5 - 3x + 2 = -16$

4) $11 + 2x - 9 = 4 + 3x - 10$

5) $x + 15 = -6$

6) $11 - 9x = -6$

7) $8 - 4x + 11 = 3x - 6$

8) $0.9x + 2.1 = 1.3x - 0.9$

9) $x + 3 - 2x = 1 - x - 3$

10) $6 - 2x = 4 - 2x + 6$

11) $35x + 90 = 45x - 80$

12) $8.1x + 3.6 = 4.5x - 2.1$

13) $7x - 4 + x + 3 = 4 - x - 6 + 2x$

14) $7 + x + 9x + 3 = x - 6$

Exercise 2: Solve each equation or formula for the variable specified.

1) 3x – 4y = 7, for x

2) 15y + 1 = x, for y

3) ex – 2y = 3z, for x

4) $\frac{3}{5}$y + a = b, for y

5) y = mx + b, for m

6) $\frac{by+2}{3} = c$, for y

7) $P = \frac{E^2}{R}$, for R

8) km + 5x = 6y, for m

9) p(t + 1) = -2, for t

10) $\frac{3ax-n}{5} = -4$, for x

Exercise 3: Pat and Nancy each solved the following equation: $3x+5=17$

Pat's Work	Nancy's Work
$3x+5=17$ $3x=12$ $x=4$	$3x+5=17$ $3x=22$ $x=66$

Who has the correct answer and how did you decide?