Name:_____

Solve each equation:

1) $\dfrac{x}{4} + \dfrac{4}{3} = \dfrac{x-2}{3}$

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

3) $\dfrac{3x}{4} - \dfrac{3x-4}{6} = \dfrac{5}{6}$

4) $5x - (x-7) = 2(2x+3) + 1$

Solve:

5) Kelly has $15,000 to invest. Her goal is to attain $1350 annually in interest. She chooses to invest some in corporate bonds that earn 12% annually and the rest in treasury bonds that earn 4% annually. How much should she invest in each to attain her goal?

6) Karin drove at a steady speed for 2 hours on the freeway. She then slowed her traveling speed by 16 mph for traveling on the side roads. The entire trip took 7 hours and covered 214 miles. What was her speed on the freeway?

7) Solve for h: $A = \dfrac{1}{2}bh$

8) Solve for x: $y = mx + b$

Solve each linear inequality, express your solution in interval notation and graph on a number line:

9) $4x + 1 \le 2(x-1)$

10) $3x - 6x + 2 < 3x - (15 - 8x)$

11) Graph the linear equation by finding its intercepts. $-4x + 3y = 24$

     x-intercept:_____   y-intercept:_____

12) Determine the slope of the line that contains: (-3,2) and (-6, -5)

13) Find the equation of the line that contains (-2,4) and has slope -5/4

14) Find the equation for the line that contains: (1,3) and (-3,-7)

15) For the given equation find the slope and y-intercept: $3x + 6y = 12$ then graph.

16) Graph the line: $x - 4 = 0$

17) Are these lines parallel, perpendicular or neither?
$$L_1 \quad -3x - y = 3$$
$$L_2 \quad 6x + 2y = 9$$

18) Find the equation for the line perpendicular to $y = 4x + 3$ and goes through the point (4,1)

19) Graph by plotting points: $y = 2x^2 - 4$

Answers: 1) 24 2) 13/9 3) 2/3 4) All Real's 5) $9375 in corporate bonds and $5625 in treasury bonds

6) 42 mph   7) $h = \dfrac{2A}{b}$ 8) $x = \dfrac{y - b}{m}$ 9) $(-\infty, -1.5]$ 10) $(17/14, \infty)$

11) x-intercept (-6,0) y-intercept (0,8)

12) m = 7/3   13) $y = -\dfrac{5}{4}x + \dfrac{3}{2}$

14) $y = \dfrac{5}{2}x + \dfrac{1}{2}$ 15) m = - ½   y-intercept = (0 ,2)   Graph:

16) vertical line at x = 4   17) Parallel

18) $y = -\dfrac{1}{4}x + 2$

19) the graph is a "u" shape with y-intercept at (0,-4)