Algebra 1 Honors Final Review   Name:_____

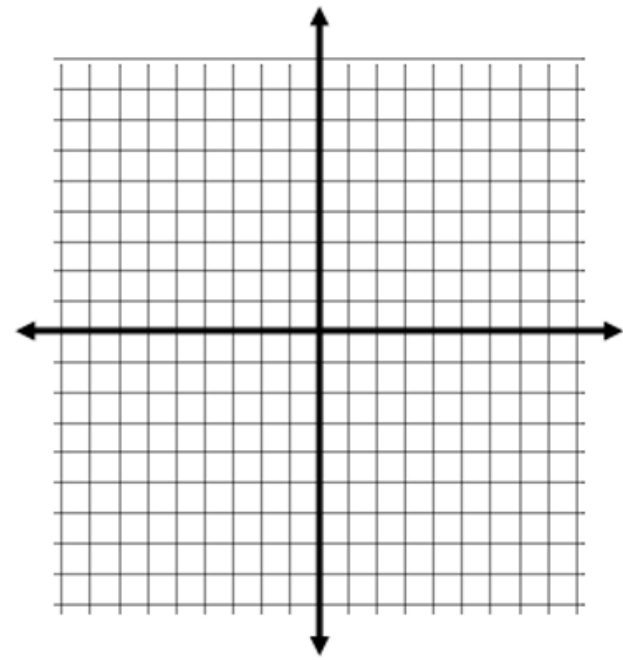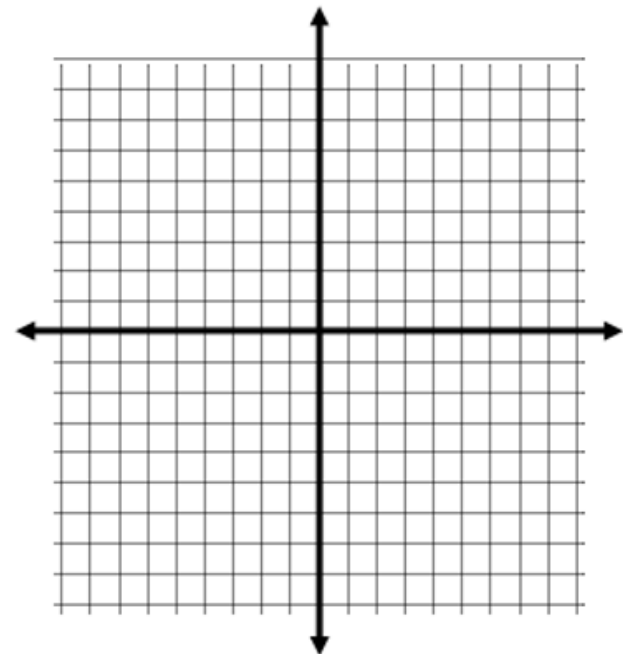1.) Given $f(x) = 12x + 3$ find the following:

    a.) $f(-2)$ b.) $f(x) = 29$

2.) Find the x and y intercepts. Then, use then to graph the line. $2x - 5y = -10$

3.) Find and state the slope and y intercept. Then, use them to graph the line. Plot at least 3 points.
$$x + 2y = -4$$

4.) Write the slope-intercept form of the equation of the line that passes through the point $(3,4)$ and is perpendicular to the line $-x - 3y = 3$

5.) Write the slope-intercept form of the equation that passes through the points $(-3,-2) \, and \, (-1,4)$

6.) Solve the system of equations using substitution.
$$3x + 5y = 5$$
$$x - 7y = 19$$

7.) Solve the system of equations using elimination.

$$2x + 2y = -14$$
$$x + 6y = -12$$

Simplify each.

8.) $-4\sqrt{24} \cdot 3\sqrt{48}$

8.) $\sqrt{8}(2\sqrt{3} - 5\sqrt{9})$

9.) $\frac{5}{4\sqrt{2}+\sqrt{5}}$

10.) $\frac{2\sqrt{4}}{5\sqrt{5}}$

Factor each completely.

11.) $21n^3 - 6n^2 - 14n + 4$

12.) $3b^2 + 5b - 8$

Solve each.

13.) $40x^2 + 6 = 206$

14.) $3r^2 + 7 = 82$

15.) Solve the quadratic by completing the square. $x^2 - 12x + 35 = 0$

16.) Graph the quadratic. State/label all pertinent info. $-2x^2 + 16x - 33$