Pre-AP Geometry Algebra Skills Review
NO CALCULATORS.   Show work.

Name __Key__

Due Date _____ Period _____

Simplify

1) $(x + 4)(2x - 1)$

$2x^2 + 7x - 4$

2) $3(y - 4)^2$

$3y^2 - 24y + 48$

Solve each system by <u>substitution</u>. Write each answer as an ordered pair.

3) $x + y = 3$

$x - y = 5$

$(4, -1)$

4) $2x + 2y = -4$

$-x + 3y = 6$

$(-3, 1)$

5) $5x + 7y = 1$

$4x - 2y = 16$

$(3, -2)$

Solve each system by <u>elimination</u>. Write each answer as an ordered pair.

6) $x + 2y = 5$

$x - y = -1$

$(2, 1)$

7) $3x - 6y = -3$

$2x - 3 = y$

$(7/3, 5/3)$

8) $8x - 5y = 14$

$10x - 2y = 9$

$(2, 1\tfrac{1}{2})$

Solve each system by <u>graphing</u>. Write each answer as an ordered pair
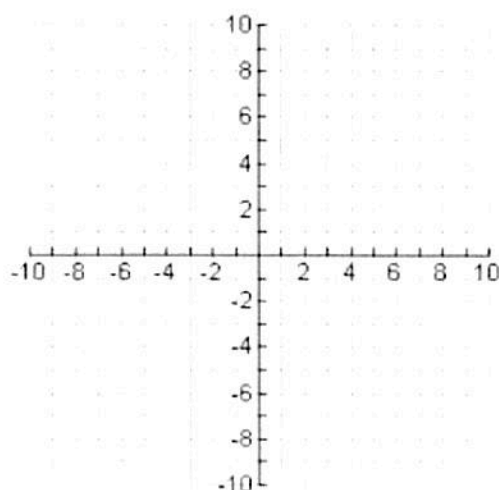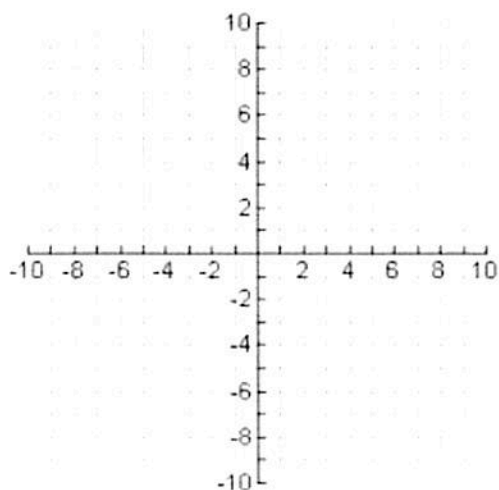
9) $x - y = 1$

$-2x + y = 2$

$(-3, -4)$

10) $x - 2y = -3$

$x = y - 1$

$(1, 2)$

Solve each equation by factoring.

11) $c^2 - 3c = 10$

$$C = 5$$
$$C = -2$$

12) $4z^2 - 9 = 0$

$$Z = 3/2$$
$$Z = -3/2$$

13) $a^2 - a - 12 = 0$

$$a = 4$$
$$a = -3$$

14) $n^2 + 10n + 21 = 0$

$$n = -7$$
$$n = -3$$

15) $8y^2 = 32$

$$y = 2$$
$$y = -2$$

16) $2x^2 - 7x = 15$

$$x = -3/2$$
$$x = 5$$

Simplify each radical expression. (answer will not be a decimal)

17) $\sqrt{27}$

$$3\sqrt{3}$$

18) $\sqrt{150}$

$$5\sqrt{6}$$

19) $\sqrt{80}$

$$4\sqrt{5}$$

20) $2\sqrt{8}$

$$4\sqrt{2}$$

Distance formula $= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Find the distance between the two given points.

21) $(-2, 3), (4, -7)$

$$d = \sqrt{136}$$

Midpoint formula $= \left(\frac{x_1 + x_2}{2} + \frac{y_1 + y_2}{2}\right)$

Find the midpoint between the two points.

22) $(16, -2), (-7, 4)$

$$(9/2, 1)$$

23) $(-8, -5), (9, -6.5)$

$$(1/2, 5.75)$$