Math-3A   Name_____   ID: 1
SM3-A HW #3-3 (Test Weak Areas and Review)

1) a) Find the x-intercepts

   b) Convert to Standard Form

   $y = (3x + 4)(x - 5)$

2) a) What is the y-intercept? (Give your answer as an ordered pair.)

   b) Convert to intercept form.

   $y = x^2 - x - 6$

3) a) Convert the equation to intercept form by factoring.

   b) Write the x-intercepts as ordered pairs.

   $y = 5x^2 - 4x - 12$

4) through: $(-3, 1)$ and $(5, 4)$ 5) through: $(2, -3)$ and $(-1, 0)$

6) through: $(1, 4)$ and $(-4, 1)$ 7) through: $(3, 1)$ and $(-1, 3)$

8) a) Convert the following equations to vertex form.

b) Solve the resulting equations by taking square roots.

$$y = x^2 + 6x + 25$$

9) a) Domain = ?
   b) Range = ?

   $$y = 2\sqrt{x - 4} + 2$$

10) a) Domain = ?
    b) Range = ?

    $$y = -2\sqrt{x - 2} + 4$$

11) A small piece of iron was taken from a blast furnace and immediately placed into an oil bath to cool. When the metal was taken out of the furnace, it's temperature was 1000 C. The oil bath temperature is 75 C. After 6 minutes, the temperature of the metal was 300 C.

a) Draw a graphical representation of the relationship between the quantities involved in this problem. Ensure that your graph is correctly labeled.

b) What is the equation representing the relationship between the two quantities. Round the base of your exponential to 2nd decimal place. Make sure to write your equation in "function notation" using "T" for temperature and "t" for time.

c) Using your equation, determine the temperature of the metal 9 minutes after it was placed in the oil bath. Write your answer to the nearest 1/10 of a degree F.
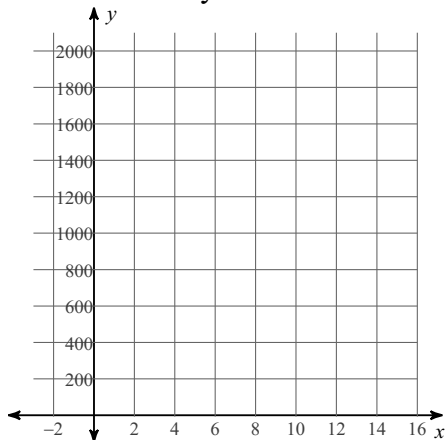
A polynomial as the following zeroes listed.

a) are there any other zeroes? If so what are they?

b) Write the polynomial in intercept form.

c) Write the polynomial in standard form.

12) $3i, \ -3i, \ -2i$

13) $\sqrt{7}, \ -3i$

14) Draw a basic picture of the graph of the polynomial.

$$y = -3x_4(x + 4)(x - 1)(x + 2)$$

15) Draw a basic picture of the graph of the polynomial.

$$y = -2(x + 5)(x + 1)(x - 2)(x - 5)(x - 7)$$