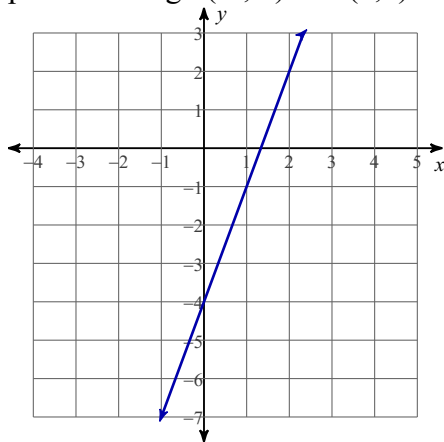Name_____ ID: 1

SM3-A HW #13-6 (Graphs, Quadratics, Review)
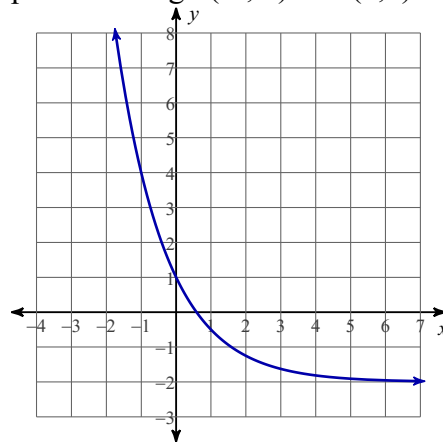
1) through: $(2, 2)$ and $(4, 3)$
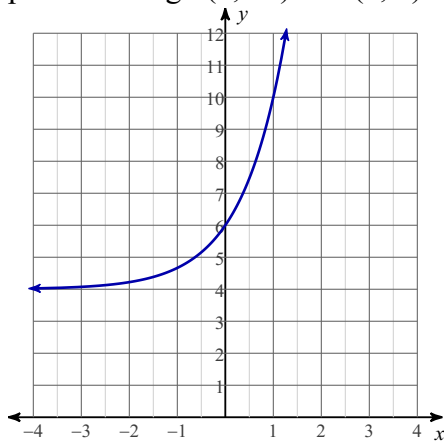
2) through: $(1, 3)$ and $(-4, -1)$

3) Write the equation that has been graphed. It passes through (-1, 4) and (0,1)

4) Write the equation that has been graphed. It passes through (-1, 4) and (0,1)

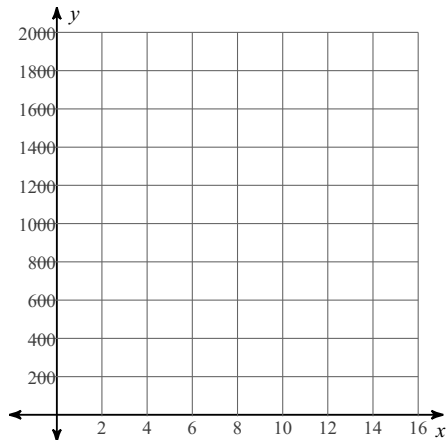5) Write the equation that has been graphed. It passes through (1, 10) and (0, 6)

6) $500 is placed into a bank account that pays 4.5% annual interest compounded monthly. How much money will be in the account in 15 years?

7) 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 2000 F. The oil bath temperature is 200 F. After 6 minutes, the temperature of the metal was 600 F.

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.

c) Using your equation, determine the temperature of the metal 4 minutes after it was placed in the oil bath.

Factor the common factor out of each expression.

8) $-8n^3 + 48n^2$

9) $16x^3 + 24x^2 - 64x$

a) Find the x-intercepts
b) Convert to Standard Form

10) $y = (3x + 2)(x - 4)$

11) $y = (4x - 7)(5x + 6)$

a) What is the y-intercept? (Give your answer as an ordered pair.)
b) Convert to intercept form.

12) $y = x^2 - 8x - 20$

13) $y = x^2 - 17x + 72$

a) Convert the equation to intercept form by factoring.
b) Write the x-intercepts as ordered pairs.

14) $y = 21x^2 + x - 2$

15) $y = 5x^2 - 29x - 6$

a) Convert the following equations to vertex form.
b) Solve the resulting equations by taking square roots.

16) $y = x^2 - 10x + 20$

17) $y = x^2 + 14x + 32$

Describe the transformation of the square function given by the following equation.

18) $y = 3(x + 1)^2 - 6$

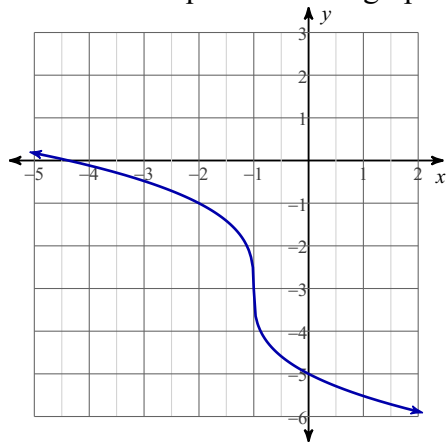a) Describe the transformation of the parent function

b) What is the range of the function?

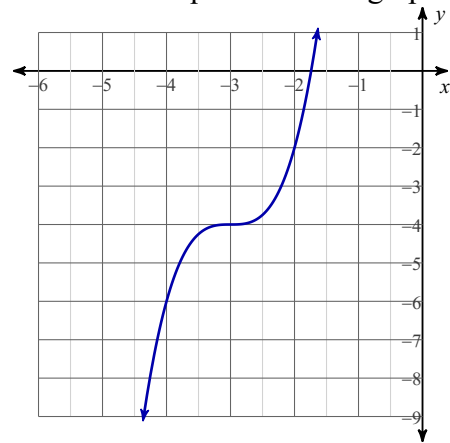19) a) What is the vertex of the graph of the following function?

b) What is the range of the function?

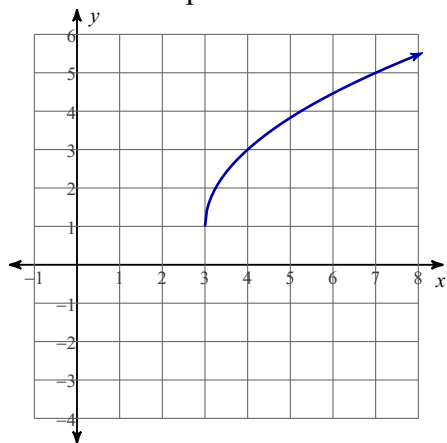$$f(x) = -3|x - 2| + 4$$

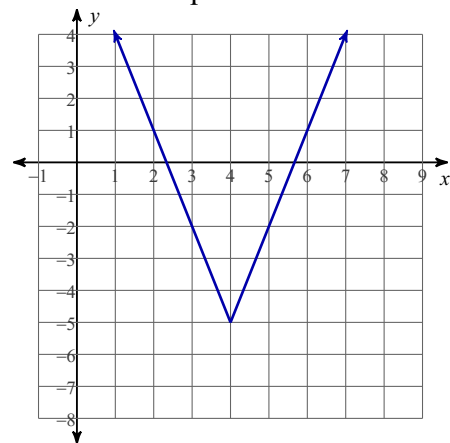20) What is the equation of the graph?

21) What is the equation of the graph?

22) What is the equation?

23) What is the equation?

24) What is the equation?