Math-3A

Name_____ ID: 1

SM3-A HW #7-5 (Exponential Function)

Date_____ Period____

1) a) Write the vertex form equation. (Show all of your work.)
   b) Find the zeroes of the equation.

$$y = x^2 - 6x + 11$$

2) $y = 5x^2 + 3x - 8$

   a) Convert to intercept form.

   b) Find the zeroes.

3) Simplify
$$\frac{6x}{6} - \frac{6}{4x}$$

4) $\dfrac{\dfrac{4x}{3}}{\dfrac{9}{x^2}}$

5) Perform the indicated operation;
   $g(a) = 3a + 5$
   $f(a) = 2a + 3$
   Find $(g \circ f)(-7)$

6) $g(x) = (x + 1)^3 - 3$

   $g^{-1}(x) = ?$

7) Solve the equation:

$$\frac{4}{n} = \frac{1}{2n} - \frac{1}{2}$$

8) Rewrite in exponential form.
$$\left(\sqrt[3]{3x^2}\right)^4$$

9) Rewrite in radical form.
$$(6x)^{\frac{4}{3}}$$

10) Simplify. Your answers should
    not have any negative exponents.
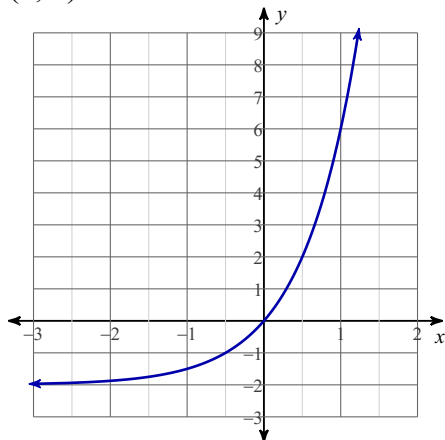$$3xy^{-3} \cdot 4x^{\frac{3}{2}}$$

11) Simplify
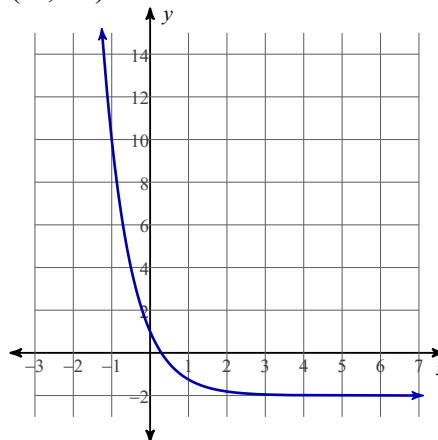$$\left(m^2 n^{\frac{3}{4}}\right)^{\frac{3}{2}}$$

 Made with Infinite Algebra 2.

12) Simplify

$$\sqrt{15}\left(3 - \sqrt{6}\right)$$

13) $\sqrt{96x^2y^4}$

14) Write the eqaution for the graph. The graph passes through the ordered pairs (0, 0) and (1, 6)

15) Write the eqaution for the graph. The graph passes through the ordered pairs (0, 1) and (-1, 10)

16) a) Describe the transformation of the parent function $y = \left(\dfrac{1}{4}\right)^x$ given by the equaiton

$$g(x) = 2 \cdot \left(\dfrac{1}{4}\right)^x + 3$$

b) what is the horizontal asymptote?

c) what is the domain?

d) what is the range?

e) What is the "growth factor"?

f) what is the y-intercept?

g) is the function "growth" or "decay"?