

Name _____

Period _____

Date _____

Ms. Schmidt

Pre-Calculus

Weekly Homework Quiz 6

This is a weekly homework quiz that will be given every week and is due back the following Monday.

This quiz is due back: **November 6th, 2017**

To receive full credit, all work must be shown. Any correct answer without work shown will receive only 1 point. Each question is worth 5 points.

1) Expand the binomial: $(3x^3 - y^2)^4$

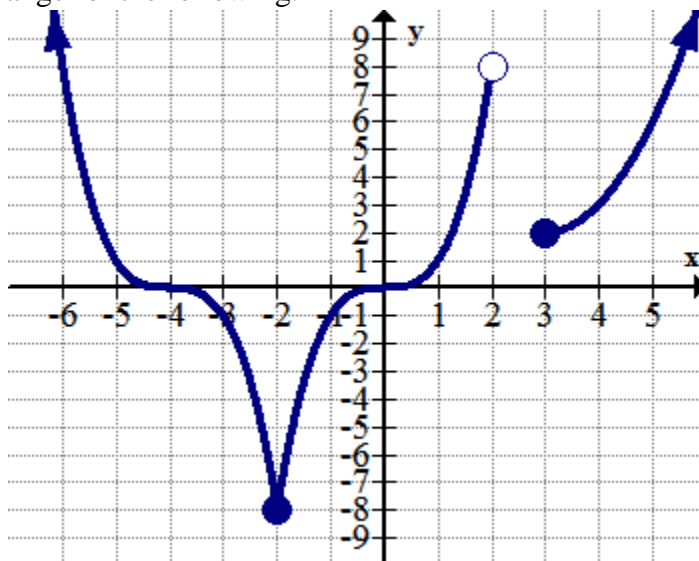
2)

a) Find the inverse of $f(x) = \sqrt{2x - 1} + 5$.

b) Verify the inverse in by finding $(f \circ f^{-1})(x) = x$ and $(f^{-1} \circ f)(x)$.

3) Write the function: $x^2 - 12x + y + 40 = 0$ in vertex form.

4) Find the domain and range for the following.



5) Sketch the polynomial by finding the end behavior, multiplicity and the zeros. Describe the multiplicity and end behavior.

$$f(x) = (x^3 - x)(x^2)$$

6) Determine if the given binomial is a factor of the polynomial.

$$f(x) = x^3 - 9x^2 + 8x + 60; \quad x + 4$$

7) Solve and graph the quadratic inequality. State your answer in interval notation.

$$2a(a + 6) > 5 - a(a + 2)$$

8) Factor completely:

a. $2x^4 + 54x$

b. $16x^3 - 12x^2 + 20x - 15$

9) Find the equation of a line that is perpendicular to the function $3y - 18 = 4x$ and passes through the point $(-4, -1)$.

10) Find the domain of the function $f(x) = \frac{2x^2+4}{\sqrt{4-x^2}}$.