Precalculus – MP1 Quarterly Review #3   Date _____

Name _____   Period _____

This will **NOT** be collected and graded tomorrow! Study for your quarterly Sections 1.4 – 1.9, and 4.1.

1. Given $f(x) = x^2 - 2x + 1$, find $f(x-3)$.

2. Find the domain of $h(x) = \dfrac{\sqrt{x}}{x-6}$

3. Find the domain of $g(x) = \sqrt{36 + 2x}$.

4. Sketch the graph of $f(x) = -x^3 + 2$. Give the domain and range in interval notation.

5. Use the graph of $h(x) = |x|$ to graph the following: (a) $h(x+4)$ (b) $h(-x)+1$

6. Given $f(x) = 3x + 7$ and $g(x) = 2x^2 - 5$, find the following: (a) $(g-f)(x)$ (b) $(f \cdot g)(x)$

7. Given $r(x) = x^2 - 2x + 16$ and $s(x) = 2x+3$, find $r(s(x))$.

8. Given $f(x) = x^3 + 7$, find $f^{-1}(x)$.

9. Determine the intervals over which the function $f(x) = (x-2)^2 + 3$ is increasing, decreasing, or constant.

10. Determine whether the following functions are even, odd, or neither:
    (a) $g(x) = x^5 + 4x - 7$
    (b) $h(x) = 3x^4 - 21x^2$

11. *Verify algebraically*, that $f(x) = 3x^5 + 2$ and $g(x) = \sqrt[5]{\dfrac{x-2}{3}}$ are inverse functions.

12. True/False: if a function has an inverse then it must pass both the vertical and horizontal line tests.

13. Express $350°$ in radian measure.

14. Find one positive and one negative coterminal angle to $\dfrac{2\pi}{9}$.

15. Convert $135°14'12''$ to decimal form.