Name _____ Period_____ Date _____
Ms. Schmidt   Pre-Calculus

Bi-Weekly Homework Quiz 12

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

This quiz is due back: **February 26th, 2018**

To receive full credit, all work must be shown. Any correct answer without work shown will receive only 1 point.

1) Find the inverse of the function: $g(x) = \sqrt[5]{x + 3} + 2$

2) Write a polynomial function that has the given zeros of: $-1, \quad -2 - i$

3) If $h(n) = n^2 - 5n$ and $g(n) = -2n + 3$ find $(h \circ g)(n)$.

4) Identify the vertical asymptotes, horizontal asymptote, slant asymptote, holes, x-intercept, y-intercept and the domain of each. If one does not exist put DNE.

$$f(x) = \frac{x^2 - 5x + 6}{4x^2 + 12x}$$

5) Evaluate the function $f(x) = 3x^2 - x$ at $\frac{f(x+h)-f(x)}{h}$.

6) Use the Rational Zero Test to list all possible rational zeros for the given function. Use the graph and the Remainder Theorem to determine **one zero** of the function. Use synthetic division to break down the polynomial further to determine the factors. List all linear factors and zeros of $f(x)$.

$$f(x) = x^3 + 12x^2 + 17x - 6$$

7) Solve the equation $4e^{x+1} - 2 = 47$. Round to the nearest thousandth.

8) Solve for x: $\log_2(x - 14) + \log_2(x - 8) = 4$

9) Find all values of θ for $\sin \theta = -0.823$ where $0 \le \theta \le 2\pi$. (round to the nearest degree first)

10) Find the measure of each side indicated. Round to the nearest tenth.