Name: _____ Block: _____ ID: A

Review #1 Pre-Calculus 12 Chapters 1 - 3

Completion
Complete each statement.

1. The variable k in the function $f(x) = a\sqrt{b(x-h)} + k$ represents a _____.

2. The graph of $g(x) = \sqrt{f(x+8)}$ is the graph of $f(x)$ moved 8 units to the _____.

3. When solving the equation $0 = -10 + \sqrt{-3x+6} - 6$ algebraically, the restriction on the variable is _____.

4. The solution to the equation $0 = -4 + 2\sqrt{x+19}$ is _____.

5. The function $f(x) = x^3 - x^2 - 4x + 4$ is positive over the interval(s) _____.

6. The zeros of the function $f(x) = 2x^3 - 5x^2 - 4x + 3$ are _____.

7. If $P(-5) = 0$ for a polynomial $P(x)$, then _____ is a factor of $P(x)$.

8. If $P(x) = -9x^3 - 3x^2 - 6x - 9$ is divided by $x - 4$, the remainder is _____.

9. _____ are transformations that cause the graph of a function to change shape without changing the orientation of the graph.

10. The graph of $g(x) = f(x-2)$ is the graph of $f(x)$ translated 2 units _____.

11. The _____ is (are) invariant on a function after a reflection in the y-axis.

12. The graph of $f(x)$ is reflected in the y-axis, translated 8 units to the left, and translated 7 units down. The equation of the transformed function is $g(x) =$ _____.

13. The inverse of the function $f(x) = \frac{5}{4}x - 5$ is _____.

Matching

Match each definition or explanation given below to its corresponding term.

A transformation	**D** image point
B mapping	**E** reflection
C inverse of a relation	**F** invariant point

____ **1.** the point that is the result of a transformation of the original point on the graph

____ **2.** a point that is mapped to itself by the function

____ **3.** a rule of correspondence established between sets that associates each element of a set with an element in the same or another set

____ **4.** a relation that undoes another relation

____ **5.** a change made to a figure or graph of a relation that results in a shift or change in shape of the figure or graph

Match the correct term with the correct part of the statement.

$$\frac{x^4-16x^3+99x^2-234x+216}{x+8}=x^3-24x^2+291x-2562+\frac{20\,712}{x+8}$$

A quotient	**C** divisor
B remainder	**D** dividend

____ **6.** $x^4-16x^3+99x^2-234x+216$

____ **7.** $x+8$

____ **8.** $x^3-24x^2+291x-2562$

____ **9.** 20 712