Name: _____ Class: _____ Date: _____ ID: A

Review #3 Pre-Calculus 12 Chapters 7 - 8

Completion
Complete each statement.

1. The graph of $y = -(2)^{-x}$ has domain $\{x \mid x \in \mathbb{R}\}$ and range $\{y \mid y < 0, y \in \mathbb{R}\}$.

2. The graph of $y = -(8)^{x}$ has a y-intercept of -1 and an x-intercept of none.

3. The equation of the horizontal asymptote of the function $y = 4(8)^{-6(x-7)} - 9$ is $y = -9$.

4. The expression $\left(\sqrt{2^6}\right)\left(\sqrt[6]{4096}\right)$ written as a single power of 2 is 2^5.

5. The value of t that makes the equation $64^{5t} = 16^{t+1}$ true is $2/13$.

6. For the function $y = b^{kx}$, if $k < 0$, the graph of the function is reflected in the y-axis, when compared to the graph of $y = b^{x}$.

7. The function $y = 9\log_6[10(x-6)] + 8$ written in exponential form is $x = \left(\frac{y}{9} - \frac{8}{9}\right)^{\frac{1}{10}} + 6$.

8. The variable k in the function $f(x) = a\log_c[b(x-h)] + k$ represents a vertical translation

9. The graph of $g(x) = \log_c(x-6)$ is the graph of $f(x)$ translated right 6 units.

10. The domain of the function $f(x) = 5\log_8[-9(x-9)] + 4$ is $\{x \mid x < 9, x \in \mathbb{R}\}$.

11. The equation $\log_c M^P = P\log_c M$ is an example of the power law of logarithms.

Matching

Match the definition or explanation to its corresponding term.

A	reflection in the y-axis	**D**	$y = 0$
B	exponential decay	**E**	vertical translation up or down
C	decreasing function		

B 1. a pattern of growth in which each term is multiplied by a constant amount (between 0 and 1) to produce the next term

C 2. an exponential function of the form $y = a(c)^x$, where $a > 0$ and $0 < c < 1$

D 3. the horizontal asymptote of an exponential function of the form $y = a(c)^x$

E 4. occurs for the graph of $y = a(c)^{b(x-h)} + k$ when $k \neq 0$

A 5. occurs for the graph of $y = a(c)^{bx}$ when $b < 0$

Match the single logarithm in simplest form with the correct equivalent expression.

A	$\log_7 s - \log_7 u + 3\log_7 x$	**D**	$8/3\log_7 u - 8\log_7 s + 3\log_7 x$
B	$8\log_7 s - \log_7 u - 3\log_7 x$	**E**	$8\log_7 s - 8/3\log_7 u + 3\log_7 x$
C	$8/3\log_7 u - 8\log_7 s - 3\log_7 x$	**F**	$8\log_7 s + 8/3\log_7 u + 3\log_7 x$

C 6. $\log_7 \frac{u^{8/3}}{s^8 x^3}$

A 7. $\log_7 \frac{sx^3}{u}$

D 8. $\log_7 \frac{u^{8/3} x^3}{s^8}$

E 9. $\log_7 \frac{s^8 x^3}{u^{8/3}}$

B 10. $\log_7 \frac{s^8}{ux^3}$