Review #3 Pre-Calculus 12 Chapters 7 - 8

Completion

Complete each statement.

1. The graph of $y = -(2)^{-x}$ has domain _____ and range _____.

2. The graph of $y = -(8)^x$ has a y-intercept of _____ and an x-intercept of

_____.

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

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

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

6. For the function $y = b^{kx}$, if $k < 0$, the graph of the function is _____ in the

_____-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 _____.

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

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

10. The domain of the function $f(x) = 5\log_8[-9(x-9)] + 4$ is _____.

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

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

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

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

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

_____ 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 $8\log_7 s + 8/3\log_7 u + 3\log_7 x$

_____ 6. $\log_7 \dfrac{u^{8/3}}{s^8 x^3}$

_____ 7. $\log_7 \dfrac{s x^3}{u}$

_____ 8. $\log_7 \dfrac{u^{8/3} x^3}{s^8}$

_____ 9. $\log_7 \dfrac{s^8 x^3}{u^{8/3}}$

_____ 10. $\log_7 \dfrac{s^8}{u x^3}$