

9 Chapter 9 Test, Form 2A

Write the letter for the correct answer in the blank at the right of each question.

- Find the domain and range of the function $y = 3\left(\frac{1}{5}\right)^x$.

A. $D = \{x \mid x \text{ is any real number.}\}$	C. $D = \{x \mid x > 0\}$	
R = $\{y \mid y < 0\}$	R = $\{y \mid y > 0\}$	
B. $D = \{x \mid x \text{ is any real number.}\}$	D. $D = \{x \mid x > 0\}$	
R = $\{y \mid y > 0\}$	R = $\{y \mid y \text{ is any real number.}\}$	1. _____
- Which function represents exponential decay?

F. $y = \frac{1}{100}(6)^x$	G. $y = (4x)^{\frac{1}{2}}$	H. $y = 2\left(\frac{4}{3}\right)^x$	J. $y = 12\left(\frac{1}{8}\right)^x$	2. _____
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- Use the equation of the exponential function whose graph passes through the points $(0, -3)$ and $(2, -48)$ to find the value of y when $x = -2$.

A. $-\frac{3}{4}$	B. $-\frac{3}{8}$	C. $-\frac{3}{16}$	D. 48	3. _____
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- Simplify $m^{9\sqrt{5}} \div m^{\sqrt{5}}$.

F. m^{45}	G. m^9	H. $m^{8\sqrt{5}}$	J. $m^{10\sqrt{5}}$	4. _____
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- Solve $\left(\frac{1}{36}\right)^n = 216^{n+5}$.

A. 10	B. 3	C. -3	D. -10	5. _____
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- Solve $81^y < 27^{y+3}$.

F. $y < -9$	G. $y > 9$	H. $y > -9$	J. $y < 9$	6. _____
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- Write the equation $6561^{\frac{1}{4}} = 9$ in logarithmic form.

A. $\log_{\frac{1}{4}} 9 = 6561$	C. $\log_9 6561 = \frac{1}{4}$
B. $\log_{6561} 9 = \frac{1}{4}$	D. $\log_{\frac{1}{4}} 6561 = 9$
- Evaluate $5^{\log_5 63}$.

F. 58	G. 315	H. $\log_5 63$	J. 63	8. _____
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- Solve $\log_{\frac{1}{5}} x = -1$.

A. $\frac{1}{25}$	B. -5	C. 5	D. $-\frac{1}{5}$	9. _____
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- Solve $\log_3(5x + 1) \geq \log_3(3x + 7)$.

F. $x \geq 3$	G. $x \geq 4$	H. $x \leq 6$	J. $x \geq 27$	10. _____
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Assessment