Algebra 2 with Support

REVIEW Exponential Functions Test C: Exponential Applications

Spring 2017

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_

**Multiple Choice. Choose the best answer.**

\_\_\_\_\_\_\_ 1. Is the following exponential function **growth or decay**? $f\left(x\right)=\frac{1}{5}^{x-1}+3$

A. growth B. decay

\_\_\_\_\_\_\_ 2. Is the following exponential function **growth or decay**? $f\left(x\right)=2(\frac{1}{2})^{x+3}-1$

A. growth B. decay

\_\_\_\_\_\_\_ 3. Is the following exponential function **growth or decay**? $f\left(x\right)=(\frac{7}{2})^{x+2}-4$

A. growth B. decay

\_\_\_\_\_\_\_ 4. Is the following exponential function **growth or decay**? $f\left(x\right)=0.34^{x-1}+3$

A. growth B. decay

\_\_\_\_\_\_\_ 5. What is the horizontal asymptote of the function $f\left(x\right)=-\left(2\right)^{x-3}+7$?

A. y = 7 B. y = - 2 C. y = 2 D. y = -7

\_\_\_\_\_\_\_ 6. What is the domain of the function $f\left(x\right)=-3^{x+2}-4$?

A. $(-\infty ,-3)$ B. $(-4,+\infty )$ C. $(-\infty ,+\infty )$ D. $(-4,+\infty )$

\_\_\_\_\_\_\_ 7. What is the range of the function $f\left(x\right)=\left(2\right)^{x+2}+1$?

A. $(-\infty ,1)$ B. $(1,+\infty )$ C. $(-\infty ,+\infty )$ D. $(2,+\infty )$

\_\_\_\_\_\_\_ 8. What is the range of the function $f\left(x\right)=-\left(\frac{1}{2}\right)^{x+2}-5$?

A. $(-\infty ,-5)$ B. $(-2,+\infty )$ C. $(-\infty ,+\infty )$ D. $(5,+\infty )$

Describe all transformations.

9. $f\left(x\right)=-\left(2\right)^{x+4}$ 10. $f\left(x\right)=\left(3\right)^{x-7}-8$

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11. $f\left(x\right)=-\left(\frac{1}{2}\right)^{x}+8$ 12. $f\left(x\right)=-\left(\frac{2}{5}\right)^{x-9}$

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Graph and analyze.

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| [image] 13.

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y-intercept \_\_\_\_\_\_\_\_ asymptote \_\_\_\_\_\_\_\_\_domain \_\_\_\_\_\_\_\_ range \_\_\_\_\_\_\_\_\_ end behavior: as x → +$\infty $, f(x) → \_\_\_\_\_\_\_\_\_\_, and   as x → -$\infty $, f(x) → \_\_\_\_\_\_\_\_\_\_[image] | [image]14.

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y-intercept \_\_\_\_\_\_\_\_ asymptote \_\_\_\_\_\_\_\_\_domain \_\_\_\_\_\_\_\_ range \_\_\_\_\_\_\_\_\_\_ end behavior: as x → +$\infty $, f(x) → \_\_\_\_\_\_\_\_\_\_, and   as x → -$\infty $, f(x) → \_\_\_\_\_\_\_\_\_\_[image] |
| 15.

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y-intercept \_\_\_\_\_\_\_\_ asymptote \_\_\_\_\_\_\_\_\_domain \_\_\_\_\_\_\_\_ range \_\_\_\_\_\_\_\_\_ end behavior: as x → +$\infty $, f(x) → \_\_\_\_\_\_\_\_\_\_, and  as x → -$\infty $, f(x) → \_\_\_\_\_\_\_\_\_\_ | 16.

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| x | f(x) |
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y-intercept \_\_\_\_\_\_\_\_ asymptote \_\_\_\_\_\_\_\_\_domain \_\_\_\_\_\_\_\_ range \_\_\_\_\_\_\_\_\_ end behavior: as x → +$\infty $, f(x) → \_\_\_\_\_\_\_\_\_\_, and   as x → -$\infty $, f(x) → \_\_\_\_\_\_\_\_\_\_ |