

Name: _____ Date: _____ Period: _____

6.4 Transformations of Exponential & Logarithmic Functions DAY ONE CYU

Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

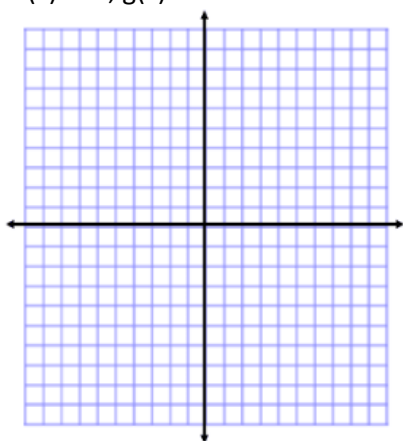
X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

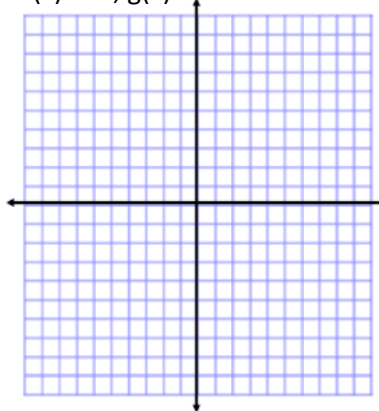
CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Describing transformations	1	2, 3	4 - 10
Sketching exponential & logarithmic functions	1	2, 3	4 - 10
Write functions from transformation descriptions		11 - 15	

Describe the transformation of f represented by g . Then sketch each function.

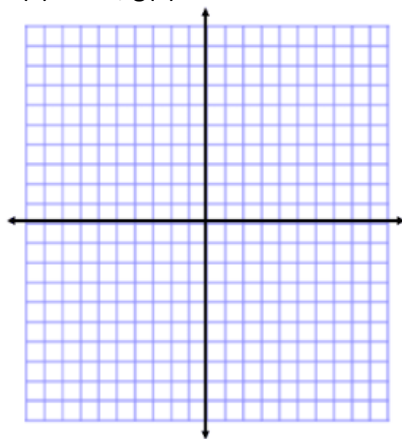
1. $f(x) = 3^x, g(x) = 3^x + 5$



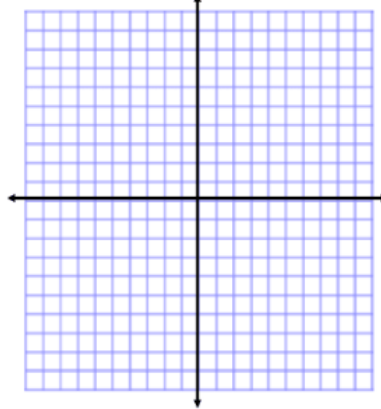
2. $f(x) = e^x, g(x) = e^x + 4$



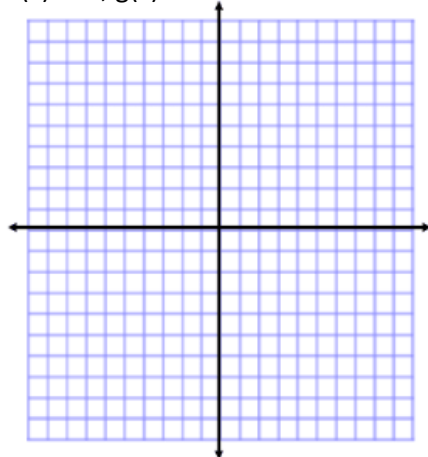
3. $f(x) = e^{-x}, g(x) = e^{-x} - 9$



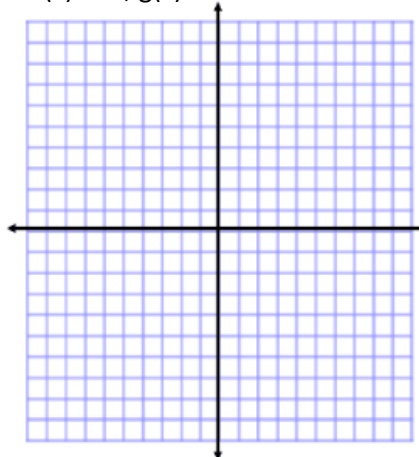
4. $f(x) = \left(\frac{1}{3}\right)^x, g(x) = \left(\frac{1}{3}\right)^{x+2} - \frac{2}{3}$



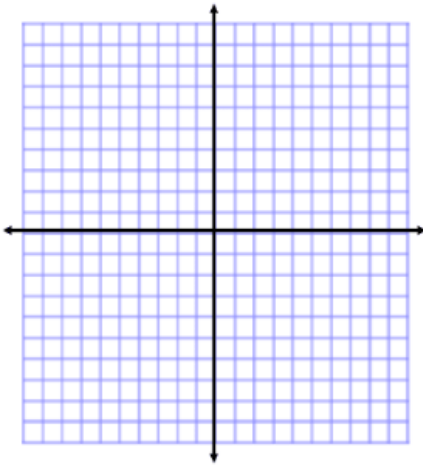
5. $f(x) = 2^x, g(x) = -2^{x-3}$



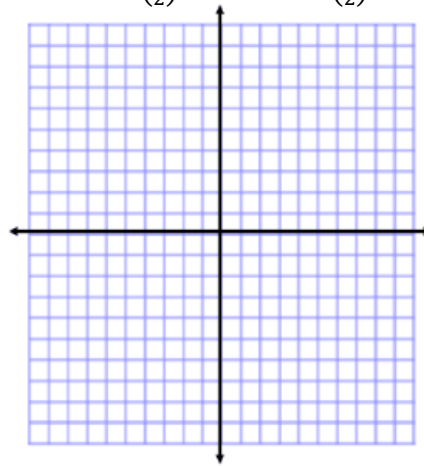
6. $f(x) = 4^x, g(x) = 4^{0.5x-5}$



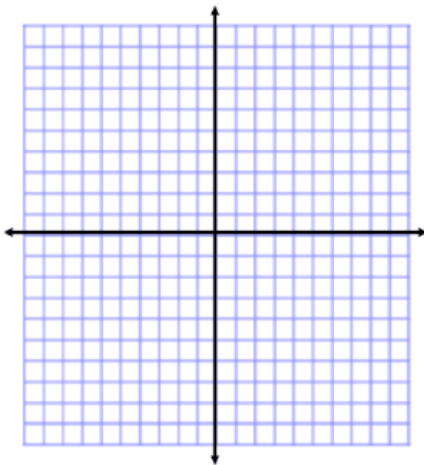
7. $f(x) = e^{-x}$, $g(x) = 3e^{-6x}$



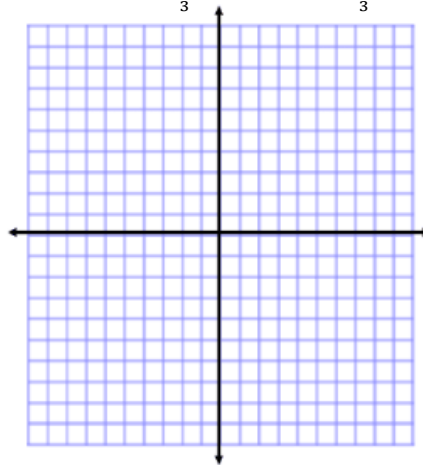
8. $f(x) = \left(\frac{1}{2}\right)^x$, $g(x) = 6\left(\frac{1}{2}\right)^{x+5} - 2$



9. $f(x) = \log_2 x$, $g(x) = \log_2(x+2) - 3$



10. $f(x) = \log_{\frac{1}{3}} x$, $g(x) = \log_{\frac{1}{3}}(-x) + 6$



Write a rule for g that represents the indicated transformations of the graph of f .

11. $f(x) = 5^x$; translation 2 units down, followed by a reflection in the y -axis.

12. $f(x) = e^x$; horizontal compression by a factor of $\frac{1}{2}$, followed by a translation 5 units up.

13. $f(x) = \log_6 x$; vertical stretch by a factor of 6, followed by a translation 5 units down.

14. $f(x) = \ln x$; translation 3 units right and 1 unit up, followed by a horizontal stretch by a factor of 8.

15. $f(x) = \log_{\frac{1}{2}} x$; translation 3 units left and 2 units up, followed by a reflection in the y -axis.

CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

