

## Homework: Exponential Functions

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In Problems 1-5, approximate each number using a calculator. Round your answer to three decimal places

1. $7^{2.1}$	2. $2^{\sqrt{3}}$
3. $5^{-1.2}$	4. $e^{3.7}$
5. $e^{-1/3}$	

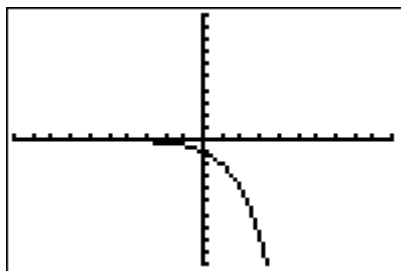
In Problems 6-9, graph each function

6. $f(x) = 2^x$	7. $f(x) = \left(\frac{5}{2}\right)^x$
8. $f(x) = \left(\frac{1}{3}\right)^x$	9. $f(x) = (0.2)^x$

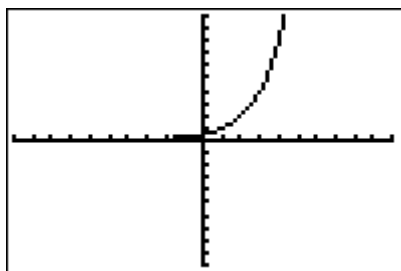
In Problems 10-12, the graph of an exponential function is given. Select the function for each graph from the following options:

$$f(x) = 2^x \quad g(x) = -2^x \quad h(x) = 2^{-x}$$
$$j(x) = 2^x + 1 \quad k(x) = 2^{x-1}$$

10.



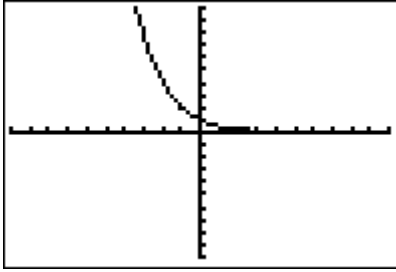
11.



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12.



In Problems 13-23, describe the transformation from the basic graph and then graph the function

13. $g(x) = 3^{x-2}$	14. $g(x) = 3^x + 1$
15. $g(x) = 3^{x+3} - 2$	16. $g(x) = 3^{-x}$
17. $g(x) = -3^{-x}$	18. $g(x) = e^{x+2}$
19. $g(x) = e^x - 3$	20. $g(x) = e^{x-4} + 1$
21. $g(x) = -e^x$	22. $g(x) = -e^{-x}$
23. $g(x) = -e^{x+2} - 3$	