Name _____ Date _____

We Have Liftoff!
Properties of Exponential Graphs

Vocabulary

Explain how the natural base e is similar to and different from π.

Problem Set

Determine whether the given function represents exponential growth or decay. Explain your reasoning.

1. $f(x) = 8^x$

The function represents exponential growth because the base is greater than 1.

2. $f(x) = 0.2^x$

3. $f(x) = \left(\frac{5}{2}\right)^x$

4. $f(x) = 25^x$

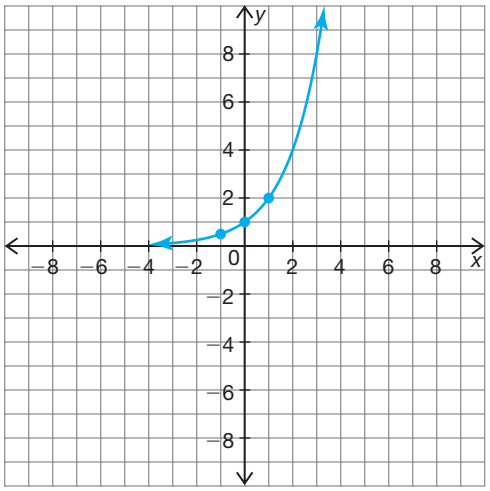
5. $f(x) = \left(\frac{1}{6}\right)^x$

6. $f(x) = 7.5^x$

Complete each table and graph the exponential function.

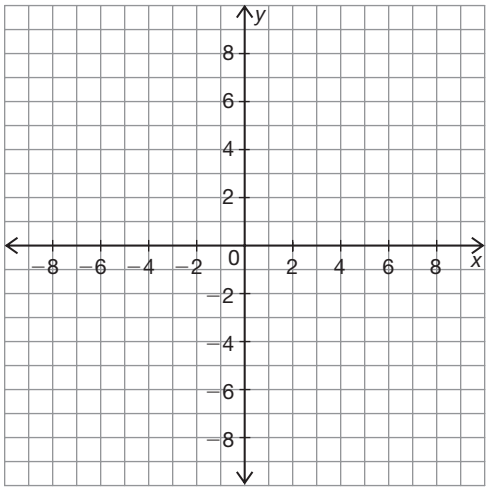
7. $f(x) = 2^x$

x	$f(x)$
−1	$\frac{1}{2}$
0	1
1	2



8. $f(x) = \left(\frac{1}{2}\right)^x$

x	$f(x)$
−1	
0	
1	



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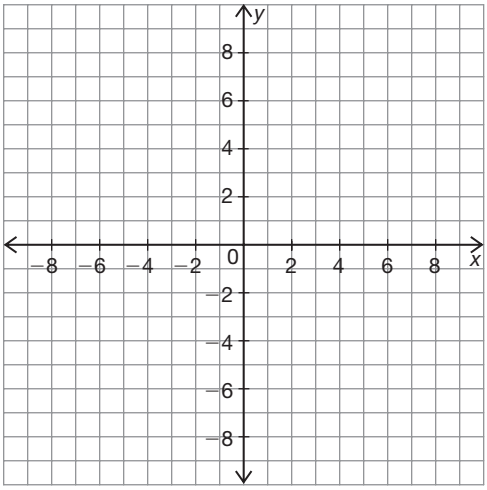
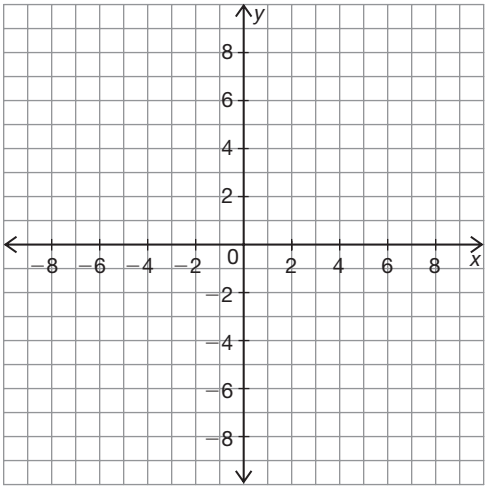
9. $f(x) = 1.1^x$

x	$f(x)$
−1	
0	
1	



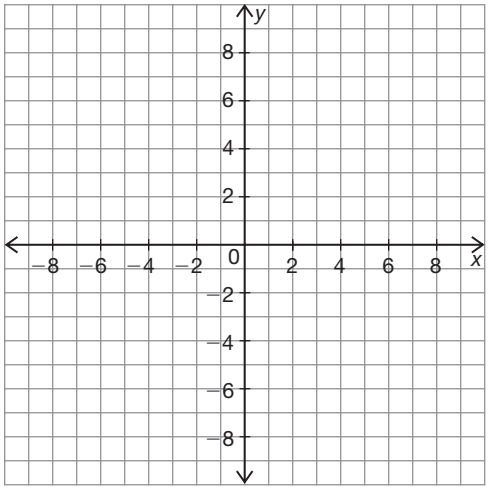
10. $f(x) = \left(\frac{5}{4}\right)^x$

x	$f(x)$
−1	
0	
1	



11. $f(x) = 6^x$

x	$f(x)$
−1	
0	
1	



12. $f(x) = 0.3^x$

x	$f(x)$
−1	
0	
1