Name _____ Date _____

LESSON 7.5

Practice A

For use with the lesson "Write and Graph Exponential Decay Functions"

Tell whether the table represents an exponential function. If so, write a rule for the function.

1.

x	-2	-1	0	1	2
y	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$

2.

x	-1	0	1	2	3
y	-5	-3	-1	1	3

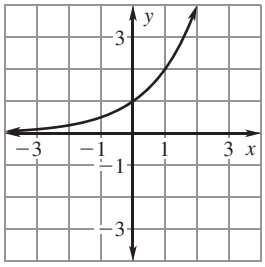
Match the function with its graph.

3. $y = \left(\frac{1}{2}\right)^x$

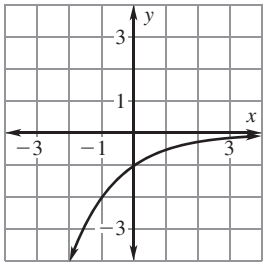
4. $y = 2^x$

5. $y = -\left(\frac{1}{2}\right)^x$

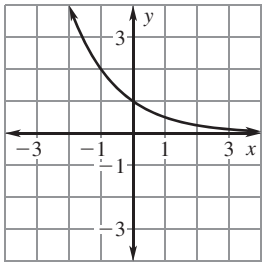
A.



B.

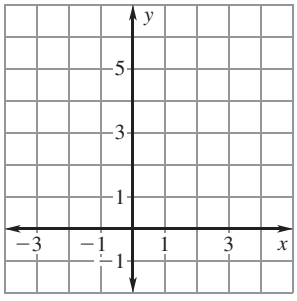


C.

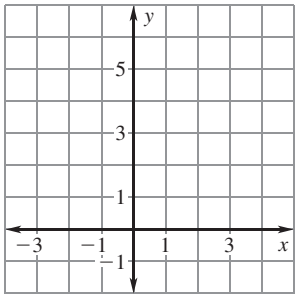


Graph the function and identify its domain and range.

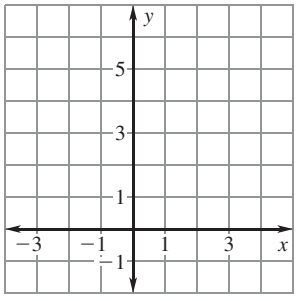
6. $y = \left(\frac{1}{6}\right)^x$



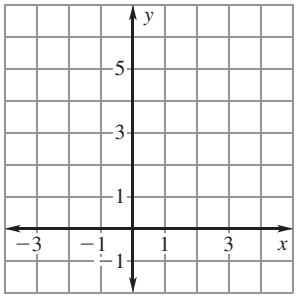
7. $y = \left(\frac{2}{5}\right)^x$



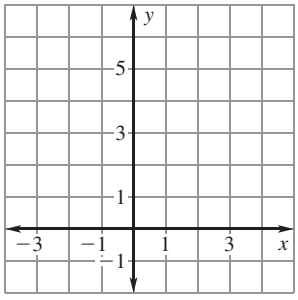
8. $y = \left(\frac{3}{8}\right)^x$



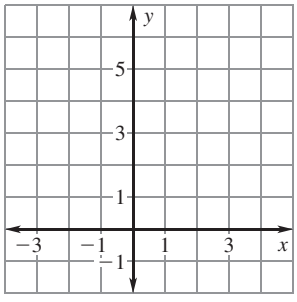
9. $y = (0.4)^x$



10. $y = (0.7)^x$



11. $y = (0.2)^x$



Name _____ Date _____

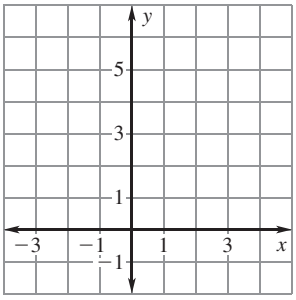
LESSON 7.5

Practice A *continued*

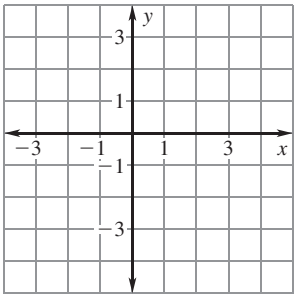
For use with the lesson "Write and Graph Exponential Decay Functions"

Graph the function. Compare the graph with the graph of $y = \left(\frac{1}{3}\right)^x$.

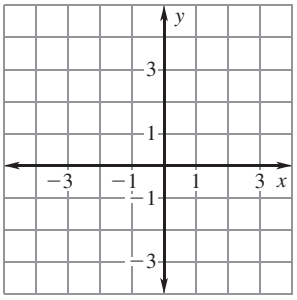
12. $y = 2 \cdot \left(\frac{1}{3}\right)^x$



13. $y = -\left(\frac{1}{3}\right)^x$

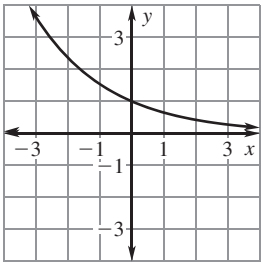


14. $y = \frac{1}{3} \cdot \left(\frac{1}{3}\right)^x$



Tell whether the graph represents exponential growth or exponential decay.

15.



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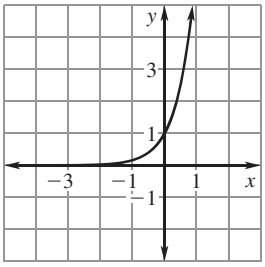

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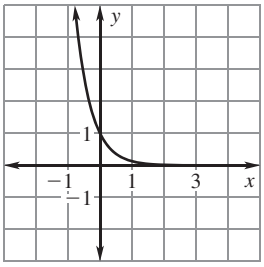

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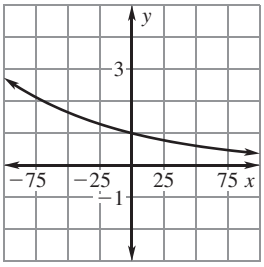

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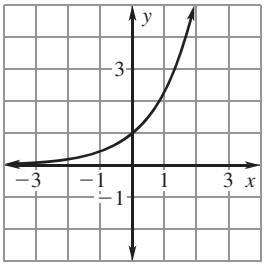

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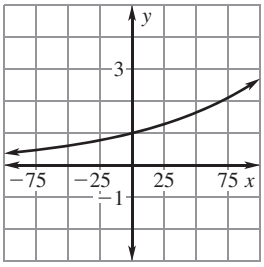

21. **Car Value** You buy a used car for $12,000. It depreciates at the rate of 15% per year. Find the value of the car after the given number of years.

a. 1 year

b. 3 years

c. 5 years

22. **Declining Employment** A business had 4000 employees in 2000. Each year for the next 5 years, the number of employees decreased by 2%.

a. Write a function that models the number of employees over time.

b. Use the function to predict the number of employees in 2004. Round to the nearest whole number.

LESSON 7.5