Name_____ Date _____

6.2 Practice A

In Exercises 1–3, identify the initial amount *a* and the rate of growth *r* (as a percent) of the exponential function. Evaluate the function when *t* = 5. Round your answer to the nearest tenth.

1. $y = 50(1 + 0.25)^t$ **2.** $y = 172(1 + 0.3)^t$ **3.** $y = 1000(1.75)^t$

In Exercises 4 and 5, write a function that represents the situation.

4. Profits of $100,000 increase by 15% each year.

5. College enrollment of 41,000 increases by 7% every year.

6. The number of food trucks in a city has been increasing by 50% annually. There were two food trucks in the year 2010.

a. Write an exponential growth function that represents the number of food trucks *t* years after 2010.

b. How many food trucks will there be in the year 2030? Does this sound reasonable? Explain.

In Exercises 7–9, identify the initial amount *a* and the rate of decay *r* (as a percent) of the exponential function. Evaluate the function when *t* = 3. Round your answer to the nearest tenth.

7. $y = 12(1 - 0.35)^t$ **8.** $y = 360(1 - 0.9)^t$ **9.** $h(t) = 550(0.4)^t$

In Exercises 10 and 11, write a function that represents the situation.

10. A school population of 1200 decreases by 6% each year.

11. A stock valued at $49.50 decreases in value by 7% each year.

In Exercises 12 and 13, determine whether the table represents an *exponential growth function*, an *exponential decay function*, or *neither*. Explain.

12.

x	0	1	2	3
y	4	12	36	108

13.

x	0	1	2	3
y	200	100	50	25

In Exercises 14–16, determine whether the function represents *exponential growth* or *exponential decay*. Identify the percent rate of change.

14. $y = 3(0.4)^t$ **15.** $y = 18(1.3)^t$ **16.** $y = 41(1.07)^t$