6.4–6.7 Quiz

Check It Out
Progress Check
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Does the table represent a *linear* or an *exponential* function? Explain. *(Section 6.4)*

1.

x	1	2	3	4
y	5	10	15	20

2.

x	2	4	6	8
y	5	10	20	40

Graph the function. Describe the domain and range. *(Section 6.4)*

3. $y = 5^x$

4. $y = -2\left(\frac{1}{6}\right)^x$

Solve the equation. Check your solution, if possible. *(Section 6.4)*

5. $8^{x+2} = 64^{4x+1}$

6. $7^{2x-6} = 49^{3x-11}$

Determine whether the table represents an *exponential growth function*, an *exponential decay function*, or *neither*. *(Section 6.6)*

7.

x	0	1	2	3
y	7	21	63	189

8.

x	1	2	3	4
y	14,641	1331	121	11

Write the next three terms of the geometric sequence. Then graph the sequence. *(Section 6.7)*

9. 15, −45, 135, −405, . . .

10. 768, 192, 48, 12, . . .

Write a recursive rule for the sequence. *(Section 6.7)*

11. 5, 11, 17, 23, . . .

12. −14, 28, −56, 112, . . .

13. SAVINGS ACCOUNT You deposit $2500 in a savings account that earns 6% annual interest compounded yearly. *(Section 6.5)*

a. Write and graph a function that represents the balance y (in dollars) after t years.

b. What is the balance after 5 years?

14. CURRENCY A country's base unit of currency is valued at US$2. The country's base unit of currency loses about 3.9% of its value every month. *(Section 6.6)*

a. Write a function that represents the value y (in U.S. dollars) of the base unit of currency after t months.

b. What is the value of the country's base unit of currency after 1.5 years?