5-Minute Check

(over Lesson 10-5)

Transparency 10-6

1. Graph $y = 4^x$. State the y-intercept. Then use the graph to determine the approximate value of $4^{0.6}$. Use a calculator to confirm the value.

Determine whether the data in each table display exponential behavior. Explain why or why not.

2.

x	1	2	3	4
y	0.5	1.5	2.5	3.5

3.

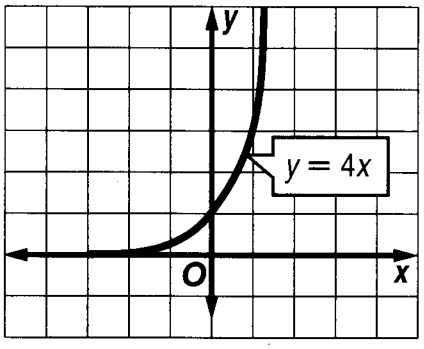
	2	4	6	8
	4	16	64	256

4. A tournament begins with 64 teams. After each round, only $\frac{1}{2}$ of the teams remain. Write an exponential function for the number of teams remaining after x rounds of play. How many teams remain after 3 rounds?

5. **Standardized Test Practice** What is the y-intercept of the graph of $y = 2^x - 5$?

ANSWERS

1. y-intercept: 1; 2; 2.3



2. No, the domain values are at regular intervals and the range values have a common difference.
3. Yes, the domain values are at regular intervals and the range values have a common ratio of 4.
4. $y = 64\left(\frac{1}{2}\right)^x$; 8 teams
5. -4

Intro. to Ch. 10-7
"Geometric Sequences"

G.S. ⇒ must not start at zero
⇒ every term is found by multiplying the previous term by the same number which is called the "common ratio" r.

⇒ $r > 0$ ⇒ similar to exponential function

$r < 0$ ⇒ get +, −, ⇒ not exponential

Ex 2 Pg 568 Find the next 3 terms and r for these G.S.

(a) 4, −8, 16, ...

(b) 5, 15, 45, ...

* (c) 60, 72, 86.4, ...

HW: Read Ch. 10-7

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