Name _____ Date _____ Class _____

LESSON 9-6

Practice A

Modeling Real-World Data

Determine which parent function would best model the given data set. Choose among linear, quadratic, exponential, and square root.

1. a. Look at the table at right. Are the data for one variable evenly spaced?

Yes, the *y*-values

b. Look at the data for the other variable. Which differences, if any, are constant?

Second differences *x*-values

c. Which parent function best models the data?

Square root function

2nd	1st	*x*	*y*
		5	1
	3	8	2
2	5	13	3
2	7	20	4
2	9	29	5
2	11	40	6

Use steps a–c to complete Exercises 2 and 3.

2.

x	*y*
2	84
4	72
6	52
8	24
10	−12
12	−56

_____

3.

x	*y*
8	−26
16	−2
24	22
32	46
40	70

_____

Write a function that models the given data.

x	−2	0	2	4	6
y	8	10	8	2	−8

4. Use a graphing calculator to make a scatter plot. Then use the regression feature to find the function that best represents the data.

_____

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Practice A

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c. Which parent function best models the data?

Square root function

2nd	1st	*x*	*y*
		5	1
	3	8	2
2	5	13	3
2	7	20	4
2	9	29	5
2	11	40	6

Use steps a–c to complete Exercises 2 and 3.

2.

x	*y*
2	84
4	72
6	52
8	24
10	−12
12	−56

Quadratic

3.

x	*y*
8	−26
16	−2
24	22
32	46
40	70

Linear

Write a function that models the given data.

x	−2	0	2	4	6
y	8	10	8	2	−8

4. Use a graphing calculator to make a scatter plot. Then use the regression feature to find the function that best represents the data.

$f(x) = -0.5x^2 + 10$