19. ERROR ANALYSIS *Describe* and correct the error in writing an equation for the function represented by the ordered pairs.

(0, 0), (1, 2.5), (2, 10), (3, 22.5), (4, 40)

x	0	1	2	3	4
y	0	2.5	10	22.5	40

First differences: 2.5   7.5   12.5   17.5

Second differences: 5   5   5

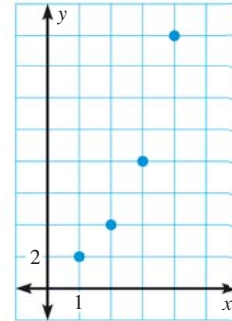The ordered pairs represent a quadratic function.

$y = ax^2$

$2 = a(10)^2$

$0.02 = a$

So, the equation is $y = 0.02x^2$.

20. REASONING Use the graph shown.

a. Tell whether the graph represents an *exponential function* or a *quadratic function* by looking at the graph.

b. Make a table of values for the points on the graph. Then use differences or ratios to check your answer in part (a).

c. Write an equation for the function that the table of values from part (b) represents.

21. GEOMETRY The table shows the area A (in square centimeters) of an equilateral triangle for various side lengths s (in centimeters). Write an equation for the function that the table of values represents. Then find the area of an equilateral triangle that has a side length of 10 centimeters.

Side length, s (cm)	1	2	3	4	5
Area, A (cm²)	$0.25\sqrt{3}$	$\sqrt{3}$	$2.25\sqrt{3}$	$4\sqrt{3}$	$6.25\sqrt{3}$

22. CHALLENGE In the ordered pairs below, the y-values are given in terms of m. Tell whether the ordered pairs represent a *linear function*, an *exponential function*, or a *quadratic function*.
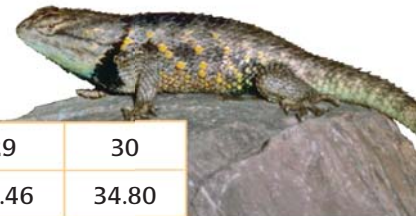
$(1, 3m - 1)$, $(2, 10m + 2)$, $(3, 24m)$, $(4, 40m + 8)$, $(5, 67m - 1)$

PROBLEM SOLVING

23. LIZARDS The table shows the body temperature B (in degrees Celsius) of a desert spiny lizard at various air temperatures A (in degrees Celsius). Tell whether the data can be modeled by a *linear function*, an *exponential function*, or a *quadratic function*. Then write an equation for the function.

Air temperature, A (°C)	26	27	28	29	30
Body temperature, B (°C)	33.44	33.78	34.12	34.46	34.80

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