EXAMPLE 4 on p. 338 for Exs. 7–13

ZERO OF A FUNCTION **Find the zero of the function.**

7. $f(x) = 7.5x - 20$ **8.** $f(x) = -x + 7$ **9.** $f(x) = \frac{1}{8}x + 2$

10. $f(x) = 17x - 68$ **11.** $f(x) = -0.5x + 0.75$ **12.** $f(x) = 5x - 7$

13. **ERROR ANALYSIS** *Describe* and correct the error made in finding the zero of the function $y = 2.3x - 2$.

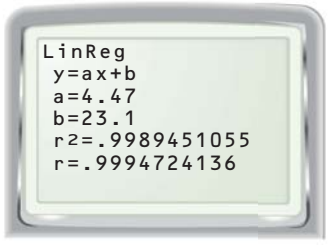
$y = 2.3(0) - 2$
$y = -2$ ✗

14. **TAKS REASONING** Given the function $y = 12.6x + 3$, for what x-value does $y = 66$?

Ⓐ 0.2 Ⓑ 5 Ⓒ 5.5 Ⓓ 78.6

15. **ERROR ANALYSIS** *Describe* and correct the error in finding an equation of the best-fitting line using a graphing calculator.

Equation of the best-fitting line is $y = 23.1x + 4.47$. ✗



16. **TAKS REASONING** Give an example of a real-life situation in which you can use linear interpolation to find the zero of a function. *Explain* what the zero means in this situation.

17. **CHALLENGE** A quantity increases rapidly for 10 years. During the next 10 years, the quantity decreases rapidly.

a. Can you fit a line to the data? *Explain*.

b. How could you model the data using more than one line? *Explain* the steps you could take.

PROBLEM SOLVING

EXAMPLE 1 on p. 335 for Ex. 18

18. **SAILBOATS** Your school's sailing club wants to buy a sailboat. The table shows the lengths and costs of sailboats.

Length (feet)	11	12	14	14	16	22	23
Cost (dollars)	600	500	1900	1700	3500	6500	6000

a. Make a scatter plot of the data. Let x represent the length of the sailboat. Let y represent the cost of the sailboat.

b. Find an equation that models the cost (in dollars) of a sailboat as a function of its length (in feet).

c. Approximate the cost of a sailboat that is 20 feet long.

TEXAS @HomeTutor for problem solving help at classzone.com