

**LESSON**  
**7-1**

# Connecting Intercepts and Zeros

## Reteach

Use your calculator to graph the function  $f(x) = x^2 - 4x - 5$ .

If you place the cursor on a point on the graph, the  $x$ - and  $y$ -values of the point will be displayed. Use the graph to answer the following questions.

1. Complete the table.

<b>x</b>	0	1	2	3	4
<b>y</b>					

2. What are the zeros of the function? Hint: the zeros are the  $x$ -values at which the graph intercepts the  $x$ -axis.

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3. What is the value of  $y$  for zeros of a function? \_\_\_\_\_

To complete a table like the one above without using a calculator, substitute each  $x$ -value into the expression and solve for  $f(x)$ . For the function  $f(x) = x^2 + 2x - 3$ , start with  $x = -3$ .

$$f(-3) = (-3)^2 + 2(-3) - 3$$

$$f(-3) = 9 + -6 - 3$$

$$f(-3) = 3 - 3$$

$$f(-3) = 0$$

<b>x</b>	-3	-2	-1	0	1
<b>y</b>	0				

4. Complete the table for  $f(x) = x^2 + 2x - 3$ .

<b>x</b>	-3	-2	-1	0	1
<b>y</b>	0				

5. Graph the function on the axes provided. Identify the zeros of the function.

