

Name \_\_\_\_\_

# 9-3B Lesson Master

**Questions on SPUR Objectives**  
See pages 576–579 for objectives.

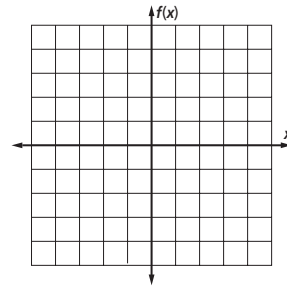
## REPRESENTATIONS Objective H

1. If  $f(x) = x^2 + 3$ , complete the following.

a. Complete the table of values below.

x	-3	-2	-1	0	1	2	3
f(x)							

b. Graph the equation.



c. Does the function have  $x$ -intercepts,  $y$ -intercepts, or both? If so, what are their values?

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d. Describe the range.

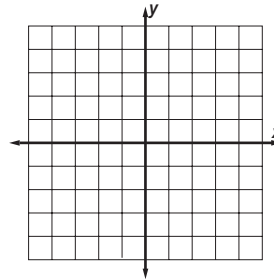
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2. If  $y = -2x^2 + 1$ , complete the following.

a. Fill in the table of values below.

x	-2	-1	0	1	2
y					

b. Graph the equation.



c. The equation is in the form  $ax^2 + bx + c = 0$ .  
What are the values of  $a$ ,  $b$ , and  $c$ ?

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d. Which of the values  $a$ ,  $b$ , or  $c$  represents the  $y$ -intercept?

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e. What is an equation of the axis of symmetry?

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f. What are the  $x$ -intercept(s)?

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3. Consider the quadratic equation  $y = 4x^2 - 12x - 9$ .

a. Graph the equation on your calculator. Give the dimensions of the window that allow you to see the vertex and  $x$ -intercepts.

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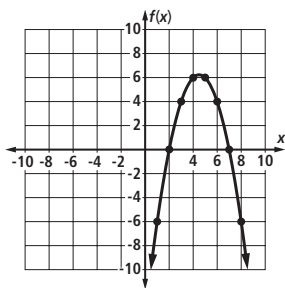
b. Estimate the coordinates of the vertex to the nearest tenth. \_\_\_\_\_

c. Estimate the  $x$ -intercepts to the nearest tenth. \_\_\_\_\_

d. Identify the  $y$ -intercept. \_\_\_\_\_

e. Find an equation of the axis of symmetry. \_\_\_\_\_

4. The graph below has equation  $f(x) = -x^2 + 9x - 14$ .



a. Estimate the coordinates of the vertex to the nearest tenth. \_\_\_\_\_

b. Estimate the  $x$ -intercepts to the nearest tenth. \_\_\_\_\_

c. Identify the  $y$ -intercept. \_\_\_\_\_

d. Find an equation of the axis of symmetry. \_\_\_\_\_

e. What is the range of the function? \_\_\_\_\_

5. *True or False.* Consider  $h(x) = -2x^2 + 5x - 3$ .

a. The graph of  $h(x)$  opens down. \_\_\_\_\_

b.  $h(-2) = -21$  \_\_\_\_\_

c. The vertex is approximately  $(-1.25, 0)$ . \_\_\_\_\_

d. The graph has no  $x$ -intercepts. \_\_\_\_\_