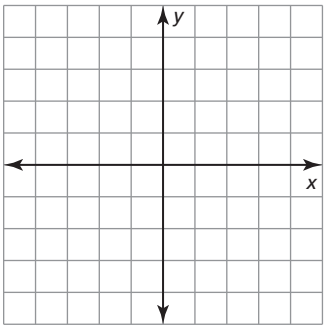
Name_____ Date _____

2.2 Notetaking with Vocabulary (continued)

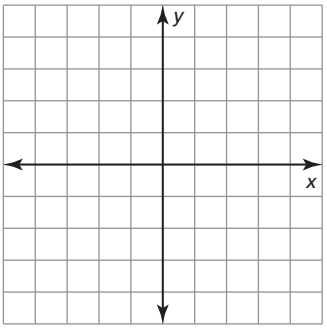
Extra Practice

In Exercises 1–3, graph the function. Label the vertex and axis of symmetry. Find the minimum or maximum value of the function. Describe the domain and range of the function, and where the function is increasing and decreasing.

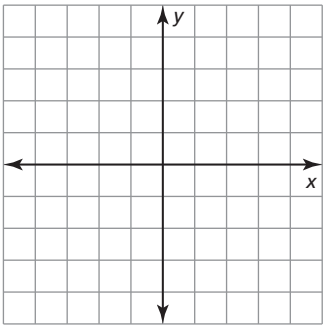
1. $f(x) = (x + 1)^2$



2. $y = -2(x - 4)^2 - 5$

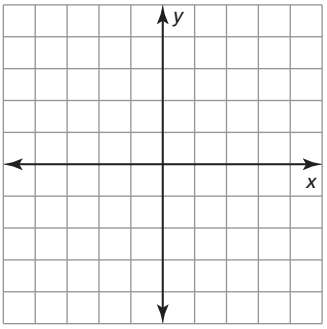


3. $t(x) = \frac{3}{2}x^2 - 3x - 1$

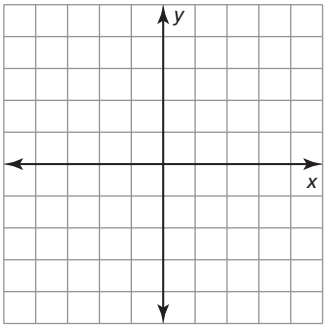


In Exercises 4 and 5, graph the function. Label the *x*-intercept(s), vertex, and axis of symmetry.

4. $f(x) = 4(x + 4)(x - 3)$



5. $f(x) = -7x(x - 6)$



6. A softball player hits a ball whose path is modeled by $f(x) = -0.0005x^2 + 0.2127x + 3$, where x is the distance from home plate (in feet) and y is the height of the ball above the ground (in feet). What is the highest point this ball will reach? If the ball was hit to center field which has an 8 foot fence located 410 feet from home plate, was this hit a home run? Explain.