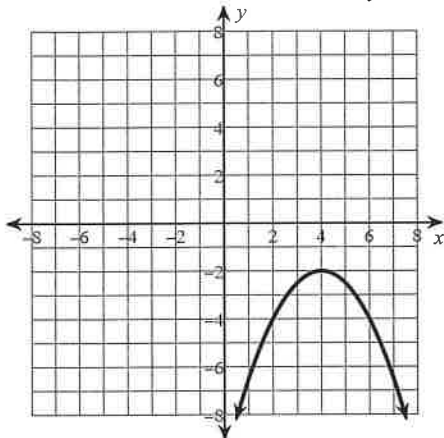


## Review T7B

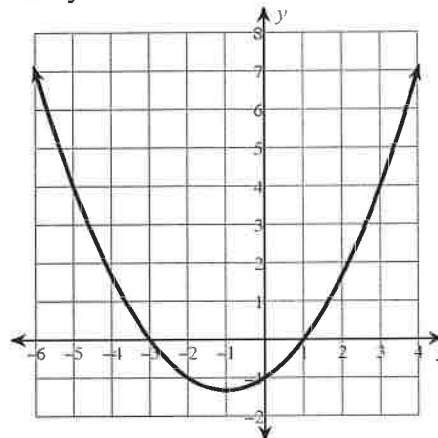
Date \_\_\_\_\_

Write the equation of the quadratic function from the graph. Look closely at what is given on the graph. Do you know the vertex? Do you know the x-intercepts? The answer to that question will give you a hint as to which form you should start in. Your final answer will be given in standard form.

- 1) Write your final answer in standard form.  
Use the function to find the y-intercept.



- 2) Write your final answer in standard form.  
Use your function to find the vertex.



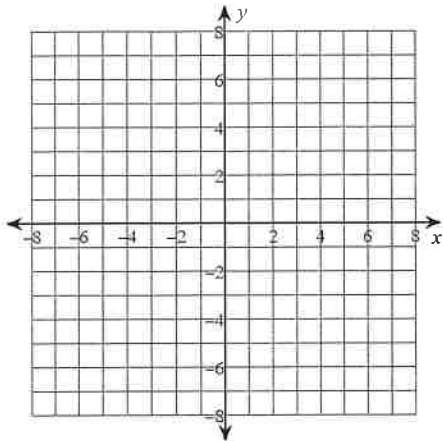
Write the equation of the quadratic function in the form indicated by the information given in each problem (the given information will help you decide what form you need to use).

- 3) The graph passes through the points  $(-1, 0)$ ,  $(1, -2)$ ,  $(0, -2)$ .

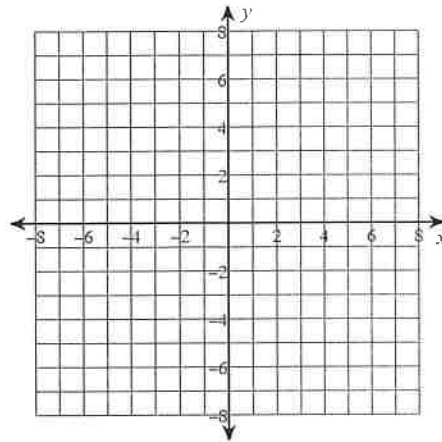
- 4) The graph has x-intercepts of  $-16$  and  $-2$ . The graph passes through the point  $(-18, 72)$ .

Sketch each parabola. Identify the vertex, axis of symmetry, focus, and directrix.

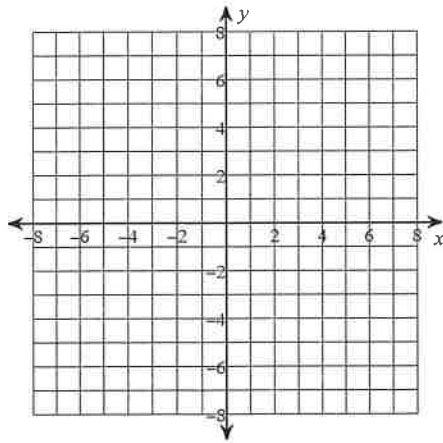
5)  $y = \frac{1}{4}(x - 3)^2 + 2$



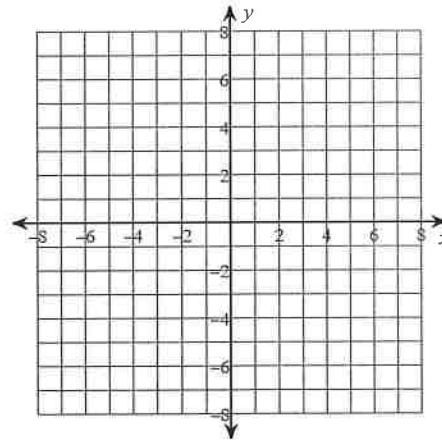
6)  $y = -\frac{1}{2}(x + 3)^2 + 4$



7)  $x = \frac{1}{2}(y - 4)^2 + 2$



8)  $x = -8(y - 2)^2 + 1$



Use the information provided to write the vertex form equation of each parabola.

9) Vertex:  $(5, 5)$ , Focus:  $\left(5, \frac{39}{8}\right)$

10) Vertex:  $(4, 4)$ , Directrix:  $x = \frac{15}{4}$

11) Focus:  $(4, 3)$ , Directrix:  $x = 6$

Use a calculator, where applicable, to answer the following.

12) A soccer player kicks a ball. The table below shows the height in feet of the ball over time after it was kicked. Write a function that models the data. Use the model to approximate the height of the ball after 6.7 seconds.

Time	Height of ball
1	12.7
2	15.2
3	14.9
4	13.1
5	10.4

Decide whether the data in the table represents a linear function, a quadratic function, or neither. Show the work that leads to your answer. If possible, write a function that represents the data.

13)

14) .

x	-3	-2	-1	0	1	2	3
y	-14	-9	-4	1	6	11	16

x	-3	-2	-1	0	1	2	3
y	3	0	-1	0	3	8	15