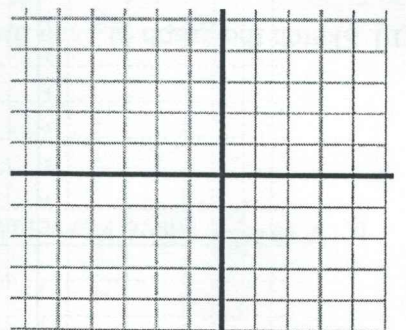
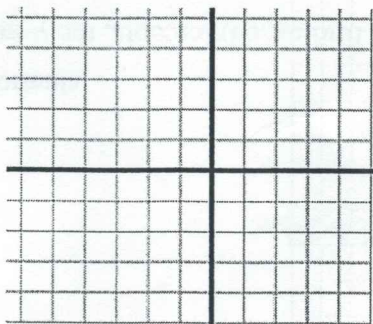


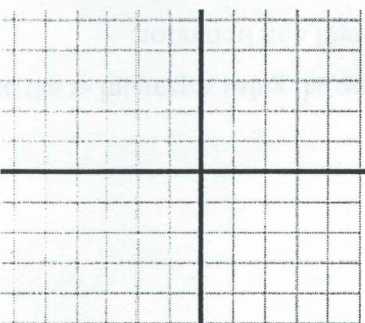
1. Sketch the graph of each function. Include the vertex, the y-intercept, and any x-intercepts. Show work.



$$f(x) = -2(x+3)^2 - 1$$

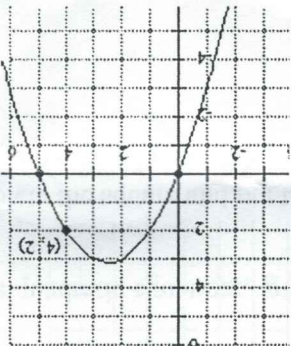
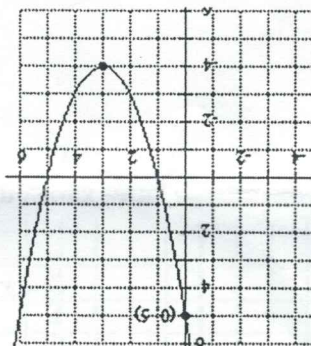
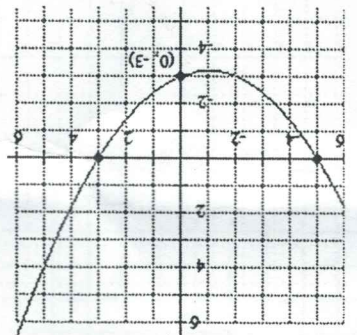


$$f(x) = (x-1)(x+3)$$



$$f(x) = 2x^2 + 8x + 8$$

2. Write the equation of each function.



3. Write the function in the general form, $ax^2 + bx + c$, and find the vertex.

$$f(x) = 2(x-7)(x+3)$$

4. Write the function in the general form, $ax^2 + bx + c$, and then find the x-intercepts.

$$f(x) = 2(x-3)^2 - 15$$

5. How many x-intercepts will each of the following functions have? Can you find the x-intercepts by factoring?

a. $f(x) = 3x^2 + 6x - 8$

b. $f(x) = 3x^2 + 24x + 48$

c. $f(x) = 3x^2 + 9x + 8$