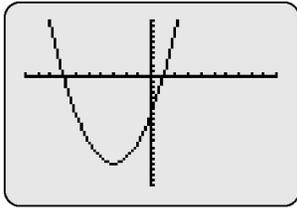
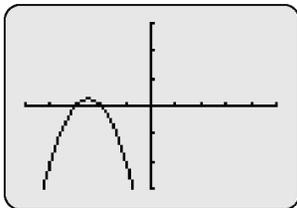


## Section 9.2 Extra Practice

1. Given the graph of  $f(x) = (x - 1)(x + 7)$ , solve the following.



- a)  $(x - 1)(x + 7) = 0$   
 b)  $(x - 1)(x + 7) > 0$   
 c)  $(x - 1)(x + 7) < 0$
2. For the graph of  $f(x) = -x^2 - 5x - 6$ , determine each solution.



- a)  $-x^2 - 5x - 6 = 0$   
 b)  $-x^2 - 5x - 6 > 0$   
 c)  $-x^2 - 5x - 6 < 0$
3. Is the value of  $x$  a solution to the given inequality? Show your work.
- a)  $x^2 + 3x > -5, x = 0$   
 b)  $(x - 4)(x + 3) \leq 7, x = 0$   
 c)  $2x - 3 > x^2 + x, x = 1$   
 d)  $3x^2 + x - 9 \geq 0, x = -2$

4. Determine the solution to each inequality.

- a)  $(x - 1)(x + 5) > 0$   
 b)  $0 \geq (x - 1)^2 - 4$   
 c)  $3(x + 1)(2x - 3) \leq 0$   
 d)  $2x(x - 2) \leq 4$

5. Solve each inequality.

- a)  $4x^2 + 18 > 17x$   
 b)  $-8x^2 + 2x + 15 \geq 0$   
 c)  $x^2 - x + 2 \leq 0$   
 d)  $4x^2 - 12x + 9 \leq 0$

6. Determine the solution to each inequality.

- a)  $x^2 + 4x + 3 > 2x^2$   
 b)  $x(x - 3) \leq 5$   
 c)  $(x - 1)(x + 5) \geq 1$   
 d)  $x^2 - 2x - 3 \geq 2x^2 + 9x + 4$

7. Given the function  $f(x) = x^2 + 6x$ ,

- a) determine the zeros of the function  
 b) solve the inequality  $f(x) > 0$   
 c) solve the inequality  $f(x) \leq -5$

