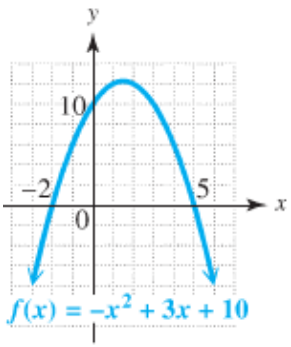
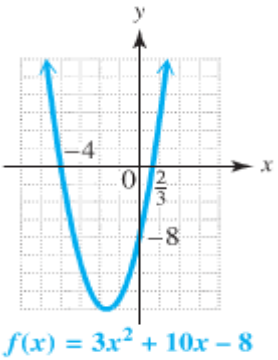
9.7 In-class Practice Math 085

1. For each graph of a quadratic function f, find the solutions of
   a) $f(x) > 0$
   b) $f(x) = 0$
   c) $f(x) \leq 0$





2. Use properties of the corresponding quadratic function to solve each inequality.

   a) $(x-5)(x+1) \geq 0$ b) $x^2 - 12 < 4x$ c) $x^2 + 6x > -9$

   d) $12 - 27x^2 < 0$ e) $3x^2 \leq 5x$ f) $20 - x - x^2 \geq 0$

3. Use sign analysis to solve each inequality.

   a) $(x+9)(x-4)(x+1) > 0$ b) $5x(x+1)(x-1) \leq 0$

   c) $(2x-7)^2 \geq -3$ d) $(5-8x)^2 < -1$

   e) $\frac{5-2x}{4x+3} \leq 0$ f) $\frac{x-1}{x-2} > 3$

   g) $\frac{(x+4)(x-1)}{x+3} < 0$ h) $\frac{5x(1+x)}{(x-1)^2} \geq 0$

4. A company determines that its average cost C, in dollars, for selling x units of a product is modeled by the function $C(x) = \frac{864+2x}{x}$. For what number of units will the average cost be less than \$8?