Math 160 $\qquad$ **Quiz** 6 $\qquad$ Name: _____

July 18, 2002

This quiz is worth 10 points. Show all work for credit.

1. (2 points) Complete the square: $x^2 + 14x - 7$.

2. (2 points) Give the value of x that gives the maximum value of $-bx^2 + 4x - 7$.

3. (2 points) Find the point on the graph of $f(x) = 3x^2 + 2$ closest to the point $(-2, 1)$.

4. (4 points) A field is the shape of a square with a semicircular cap on one end. If the area of the field is $20,000$ square feet, how long is the field along one side?

5. (Bonus 2 points) Solve for y: $3y = 4x^2 - 16xy + 5x - 2x^2 + y^2$