



4.  $y = 2x^2 + 4x + 5$

**Section 11.7: More About Parabolas; Applications**

Use the discriminant to determine the number of  $x$ -intercepts for each quadratic function.

5.  $f(x) = 2x^2 + 4x + 8$

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

7.  $f(x) = 9x^2 + 6x + 1$

8. A rectangular pen is to be fenced in against a house with 100 feet of fencing. Find the dimensions of the pen that will maximize the area. (Draw a picture.)

9. The difference of two numbers is 6. Find the numbers that will minimize their product.