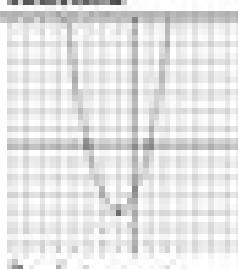
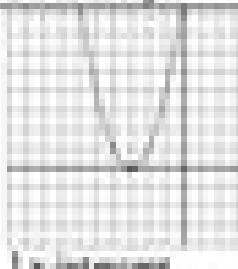
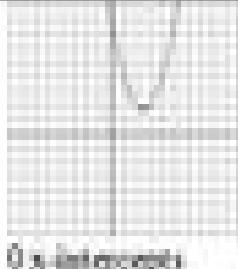


## Using the Discriminant

The discriminant of a quadratic equation  $ax^2 + bx + c = 0$ , is  $b^2 - 4ac$ . The discriminant is found inside the square root of the quadratic formula. The discriminant tells us the number and nature of the roots of the quadratic.

If the discriminant is:	Number and Nature	number of x-intercepts of the graph of the related function
Positive	two real roots	 2 x-intercepts
Zero	one real root (a double root)	 1 x-intercept
Negative	two imaginary roots/no real roots	 0 x-intercepts