

MATH 1314

Chapter 3.1: Quadratic Functions

$$f(x) = ax^2 + bx + c$$

$$a > 0$$

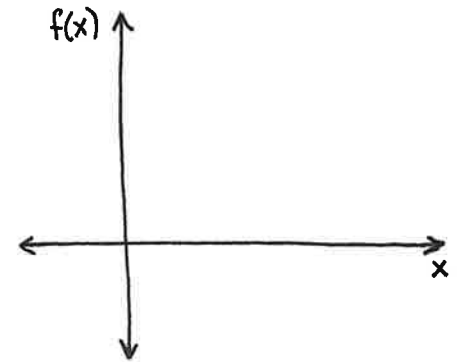
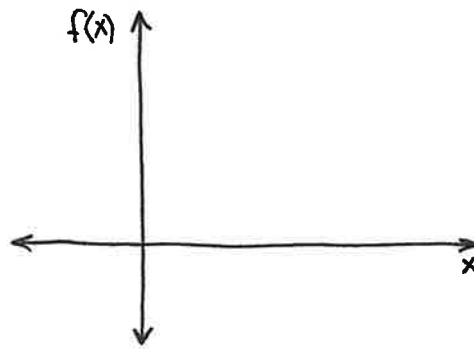
$$a < 0$$

Vertex

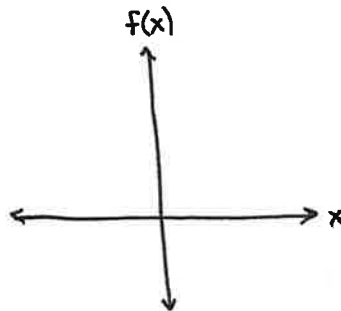
Axis Of Symmetry

x-intercept

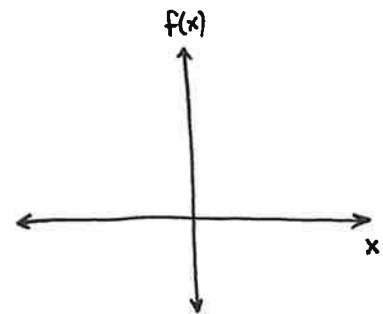
y-intercept



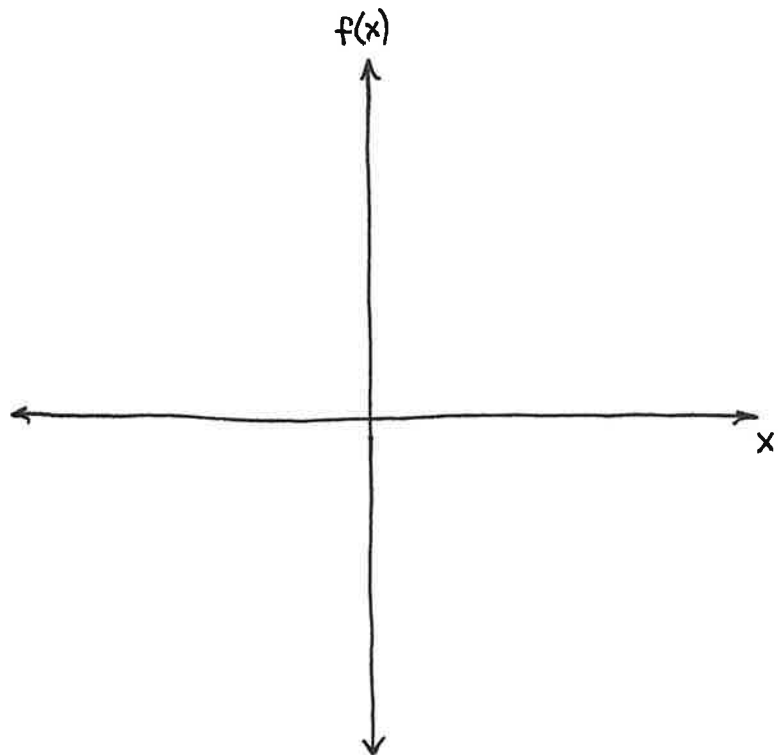
$$f(x) = ax^2$$



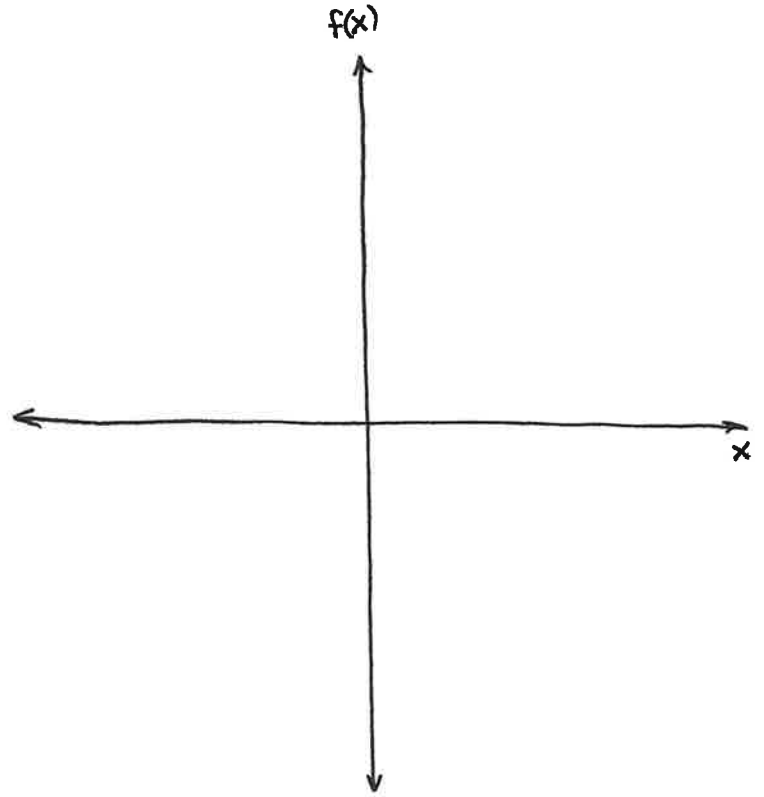
$$f(x) = a(x - h)^2 + k$$



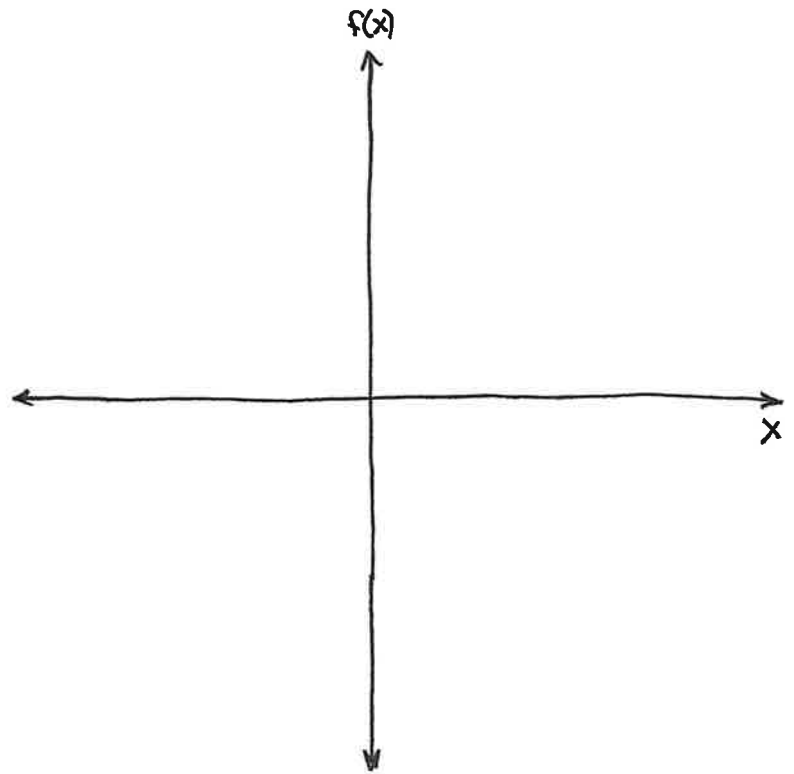
Graph  $f(x) = -2(x - 3)^2 + 8$



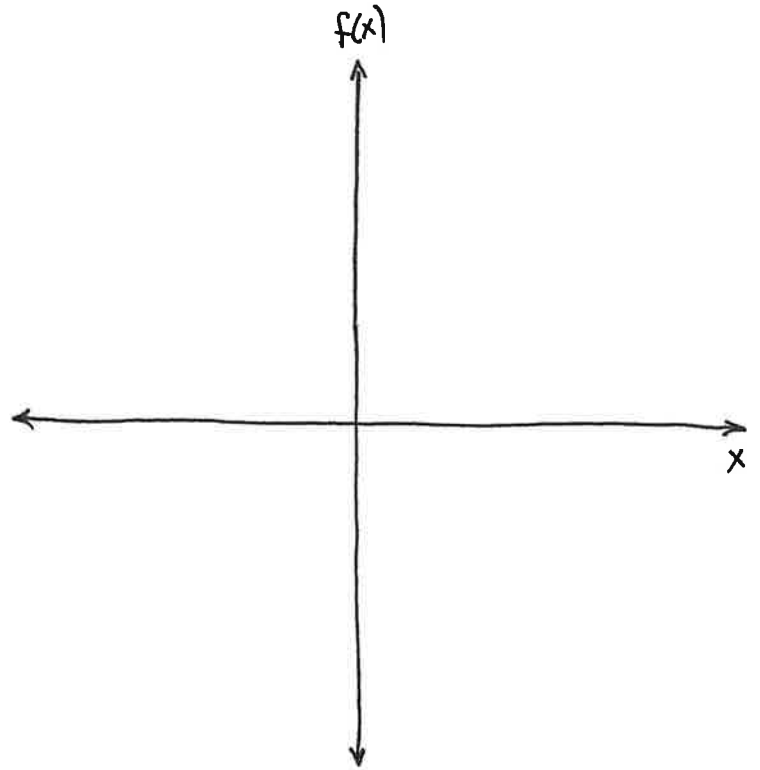
Graph  $f(x) = -(x - 1)^2 + 4$



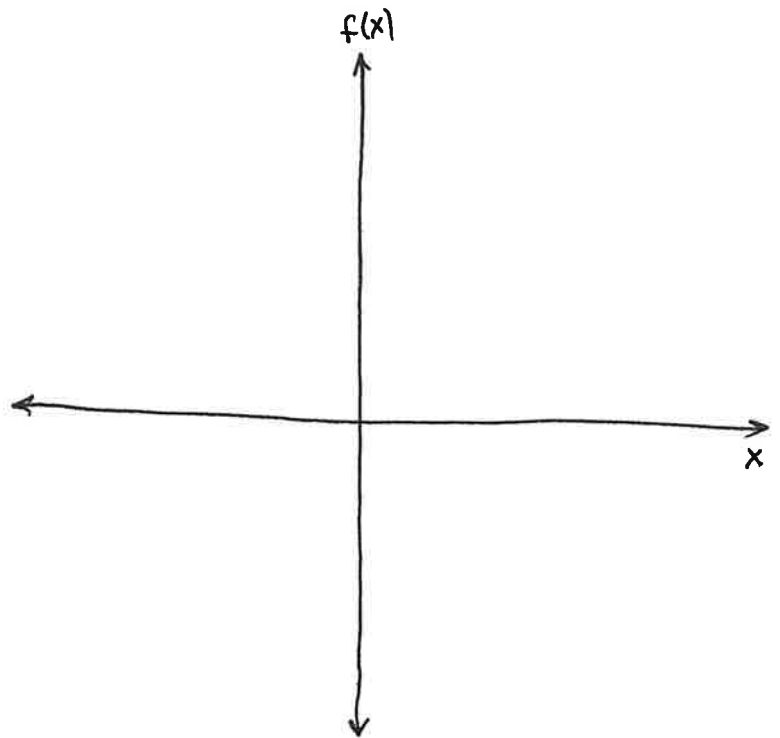
Graph  $f(x) = (x + 3)^2 + 1$



Graph  $f(x) = -x^2 - 2x + 1$



Graph  $f(x) = -3x^2 + 6x - 13$



**MATH 1314**  
**Chapter 3.2: -4-**

You have 100 feet of fencing to enclose a rectangle. What is its maximum area?

The difference between two numbers is 10. What is the minimum product?