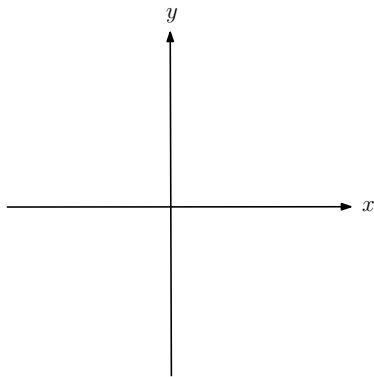


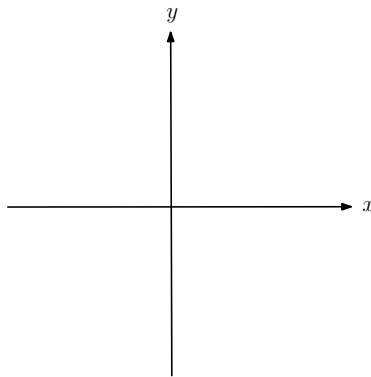
# Cubics

Sketch the following graphs, labelling the coordinates of intersections with any axes:

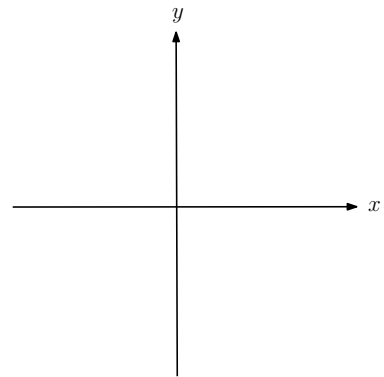
$$f(x) = (x + 2)(x - 1)(x - 3)$$



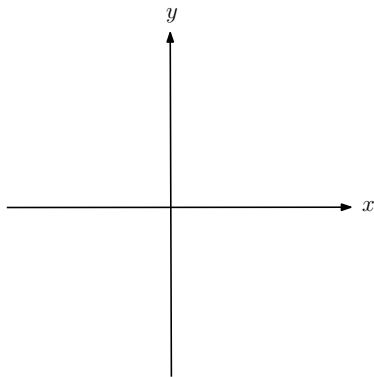
$$f(x) = (x - 4)(x + 5)^2$$



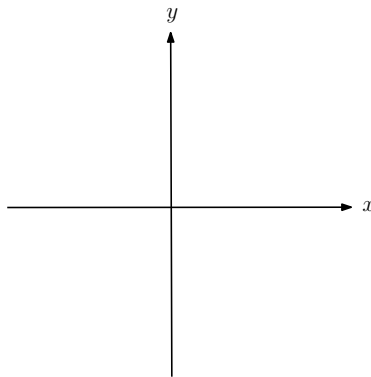
$$f(x) = x(2x + 1)(x - 1)$$



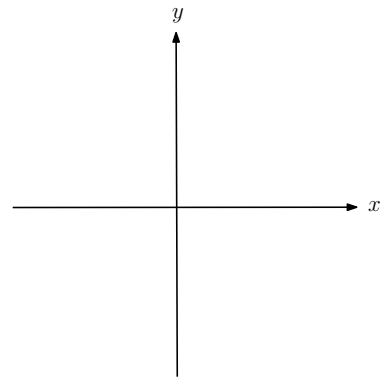
$$f(x) = (3x - 1)(x + 2)(1 - x)$$



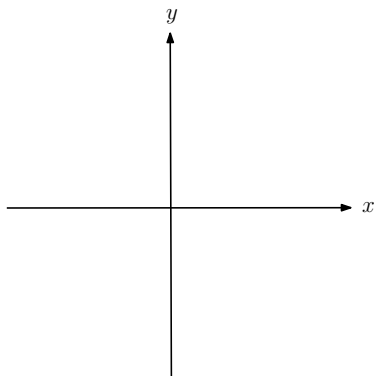
$$f(x) = -x^3$$



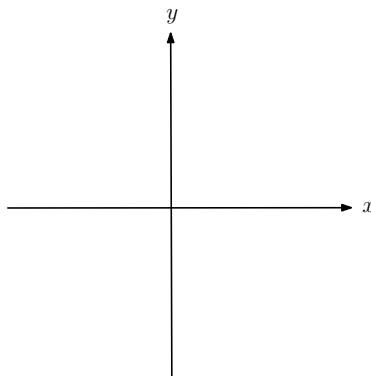
$$f(x) = x^2(5 - x)$$



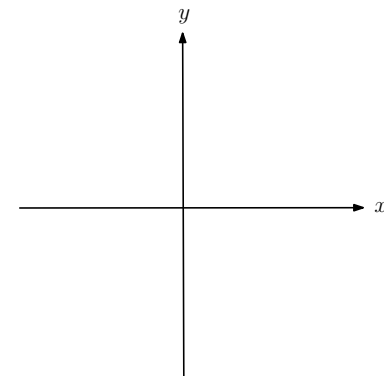
$$f(x) = (2 - x)(3 - x)(4 - x)$$



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



$$f(x) = (x + 1)(x - k)^2, \quad k > 0$$



# Solutions

Sketch the following graphs, labelling the coordinates of intersections with any axes:

