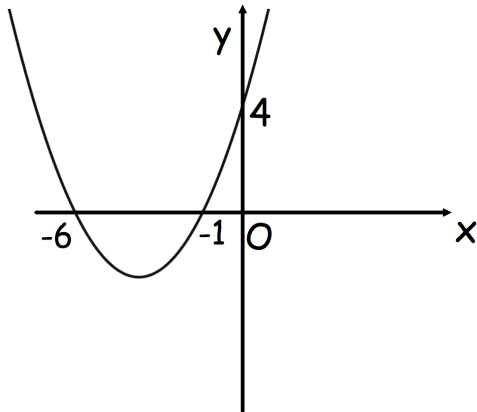




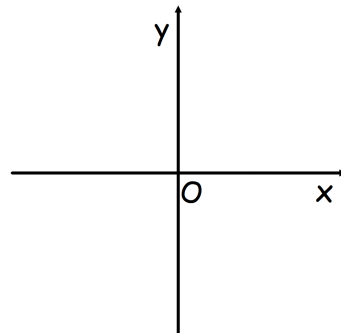
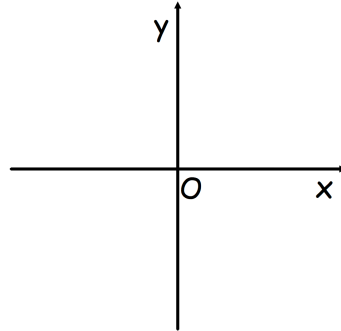
Kate estimated the cost of the bricks needed for building a wall.
 When she returned to the office, she realised that she actually needs 15% more bricks.
 However Kate has a voucher that gives her $x\%$ off the price of each brick.
 Kate has says that the actual cost of the material is the same as her estimate.

Find x .
 Give your answer to 2 decimal places.

Shown is a sketch of the graph $y = f(x)$



- (a) Sketch $y = -f(x)$
- (b) Sketch $y = f(-x)$



$2x^2 - 6x + 1$ can be written in the form $a(x - b)^2 + c$

Find a , b and c

A circle has equation $x^2 + y^2 = 50$
 The point A has coordinates $(1, 7)$
 The line l is the tangent to the circle at the point A.
 The line l crosses the x -axis at the point P.

Work out the area of triangle OAP.