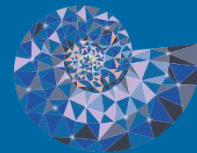


# Equation of a circle



## Gold

A circle  $C$  with centre at  $(2,3)$  passes through the point  $(-2,4)$ .

**a** Show that the circle  $C$  also passes through the point  $(6,2)$ .

The tangent to the circle  $C$  at the point  $(6,2)$  meets the  $y$ -axis at the point  $P$ .

**b** Find coordinates of  $P$ .

## Silver

Find the coordinates of the points where the circle  $(x-1)^2 + (y-3)^2 = 10$  meets the  $x$ -axis.

## Bronze

Show that  $x^2 + y^2 - 6x + 4y + 4 = 0$  can be written in the form  $(x-a)^2 + (y-b)^2 = r^2$ .