

7

The points  $A(a, 3)$  and  $B(10, 6)$  lie on a circle.

$AB$  is a diameter of the circle and passes through the point  $(2, 4)$

The circle has equation

$$(x - c)^2 + (y - d)^2 = e$$

where  $c$ ,  $d$  and  $e$  are rational numbers.

Find the values of  $a$ ,  $c$ ,  $d$  and  $e$ .

**[6 marks]**