8 The point A has coordinates $(2, 6)$, the point B has coordinates $(6, 8)$ and the point C has coordinates $(4, 2)$.

(a) Find the exact length of

        (i) AB (ii) BC (iii) AC

(4)

(b) Find the size of each angle of triangle ABC in degrees.

(3)

The points A, B and C lie on a circle with centre P.

(c) Find the coordinates of P.

(2)

(d) Find the exact length of the radius of the circle in the form $\sqrt{a}$, where a is an integer.

(2)

Question 8 continued

Question 8 continued

Question 8 continued

(Total for Question 8 is 11 marks)