S2 F/E   Unit 10   **The Circle**   **Homework Exercise**
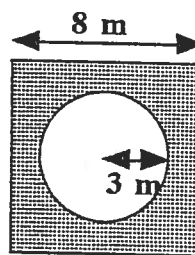
For this exercise use π = 3.14 and round answers to 2 decimal places, where necessary. You may use a calculator.

1.   Calculate the circumference of the circle with diameter 15 cm.

2.   Calculate the circumference of the circle with radius 12 mm.

3.   Calculate the diameter of the circle with circumference 10.99 m.

4.   Calculate the radius of the circle with circumference 157 cm.

5.   Calculate the area of the circle with radius 60 mm.

6.   Calculate the area of the circle with diameter 14 m.

7.   A circular flower bed, with radius 3 m, is cut out of a square of grass with sides 8 m long.
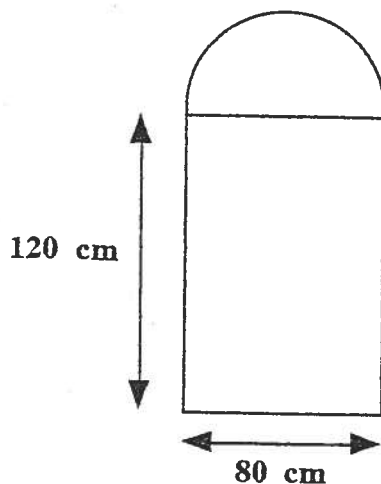
   (a) Calculate:-

   (i) the circumference of the flower bed

   (ii) the area of grass around the flower bed

   (b) Fertiliser for the flower bed costs £0.50 per square metre, and grass seed costs 25p per square metre.

Calculate the total cost of reseeding the lawn and putting fertiliser on the flower bed.
Show ALL working clearly.

8.   A stained glass window is made up from a rectangle and a semi-circle, as shown in the diagram.

Calculate:-

(a) the perimeter of the window

(b) the area of the window.

9.   A farmer has 2 paddocks each with an perimeter of 100 square metres. One is circular and one is square.

What does it cost, in total, to seed each paddock with grass seed which costs 25 p per square metre?

Show ALL working.