

## SAMPLE PAPER 5: PAPER 2

### QUESTION 1 (25 MARKS)

#### Question 1 (a)

$$y = \sqrt{16 - x^2}$$

$$x = 0: y = \sqrt{16 - 0^2} = \sqrt{16} = 4$$

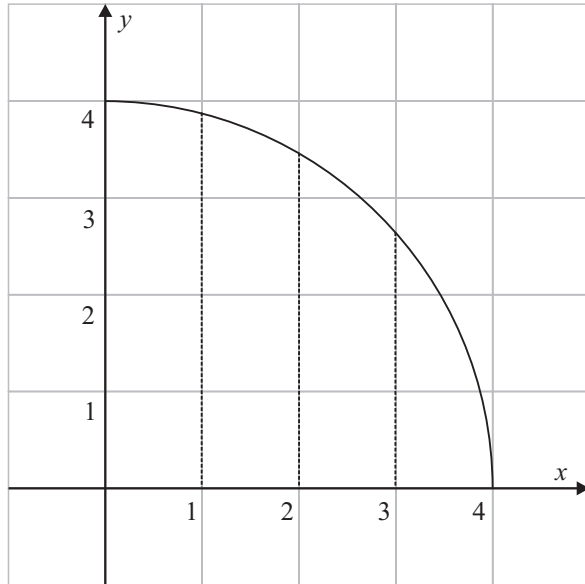
$$x = 1: y = \sqrt{16 - 1^2} = \sqrt{15} = 3.87$$

$$x = 2: y = \sqrt{16 - 2^2} = \sqrt{12} = 3.46$$

$$x = 3: y = \sqrt{16 - 3^2} = \sqrt{7} = 2.65$$

$$x = 4: y = \sqrt{16 - 4^2} = \sqrt{0} = 0$$

x	y
0	4
1	3.87
2	3.46
3	2.65
4	0



#### Question 1 (b)

$$A \approx \frac{h}{2} [y_1 + y_n + 2(y_2 + y_3 + y_4 + \dots + y_{n-1})]$$

$$h = 1$$

$$A \approx \frac{1}{2} [4 + 0 + 2(3.87 + 3.46 + 2.65)] = 11.98 \text{ square units}$$

#### Question 1 (c)

$$r = 4$$

Area of a circle:  $A = \pi r^2$

$$A = \frac{1}{4} \times \pi (4)^2 = 4\pi$$

#### Question 1 (d)

$$4\pi = 11.98$$

$$\therefore \pi = \frac{11.98}{4} \approx 3.00$$