Chapter 1 Solution

Exercise 1

1. (a) The required circumference

$= 1730 \times \pi$ (M1) for correct formula

$= 5434.955291$

$= 5.43 \times 10^3$ cm A1 N2

[2]

(b) The required area

$= \left(\frac{1730}{2}\right)^2 \times \pi$ (M1) for correct formula

$= 2350618.163$

$= 2.35 \times 10^6$ cm^2 A1 N2

[2]

2. (a) The required length of hypotenuse

$= \sqrt{3348^2 + 14880^2}$ (M1) for correct formula

$= 15252$

$= 1.53 \times 10^4$ cm A1 N2

[2]

(b) The required area

$= \frac{1}{2} \times 3348 \times 14880$ (M1) for correct formula

$= 24909120$

$= 2.49 \times 10^7$ cm^2 A1 N2

[2]

3. (a) The required height

$= \dfrac{22489932}{5476}$ (M1) for correct formula

$= 4107$

$= 4.11 \times 10^3$ cm A1 N2

[2]

(b) The required length of diagonal

$= \sqrt{4107^2 + 5476^2}$ (M1) for correct formula

$= 6845$

$= 6.85 \times 10^3$ cm A1 N2

[2]

4. (a) The required base length

$= \dfrac{331320000}{8283} \times 2$ (M1) for correct formula

$= 80000$

$= 8 \times 10^4$ cm A1 N2

[2]

(b) The required length of hypotenuse

$= \sqrt{80000^2 + 8283^2}$ (M1) for correct formula

$= 80427.65749$

$= 8.04 \times 10^4$ cm A1 N2

[2]