Chapter 6

Check in

1 **a** 225 cm^2 **b** 216 m^2 **c** 135 m^2
d 35 mm^2 **e** 56 cm^2

2 **a** circumference
b double it **c** halve it

Exercise 6A

1 **a** **i** 19.6 cm^2 **ii** 15.7 cm
b **i** 28.3 cm^2 **ii** 18.8 cm
c **i** 0.126 m^2 **ii** 1.26 m
d **i** 38.5 cm^2 **ii** 22.0 cm

2 **a** 23.6 cm, 88.4 cm^2 **b** 9.42 cm, 28.3 cm^2
c 37.7 cm, 150.8 cm^2

3 622 cm^2

4 3.78 m

5 **a** $A = 89.3\text{ cm}^2$, $P = 35.7\text{ cm}$
b $A = 25.6\text{ cm}^2$, $P = 18.8\text{ cm}$
c $A = 64.3\text{ cm}^2$, $P = 33.4\text{ cm}$
d $A = 9.14\text{ cm}^2$, $P = 12.3\text{ cm}$

6 17.8 mm

7 2001 (to the nearest whole number of revolutions)

8 38.5 cm^2

9 **a** 10.7 cm^2 **b** 186 cm^2 **c** 28.3 cm^2 **d** 56.5 cm^2

10 Area = 9426 m^2, therefore 2356.5 kg of seed

11 **a** 3.46 m^2 **b i** 2 **ii** \$18.33

12 **a** 1.26 cm, 2.51 cm^2 **b** 15.3 cm, 53.5 cm^2
c 49.5 cm, 223 cm^2

Exercise 6B

1 **a** 9cm^2, 16cm^2
b 25cm^2
c $9 + 16 = 25$

2 **a** 1 square, 9 squares
b 10 squares
c $1 + 9 = 10$

3 **d** The area of the larger square is equal to the sum of the areas of the two smaller squares.

5 **a** 20 mm **b** 50 mm **c** 13 mm **d** 29 mm
e 37 mm

6

	a	b	c	a^2	b^2	$a^2 + b^2$	c^2
a	12	16	20	144	256	400	400
b	30	40	50	900	1600	2500	2500
c	5	12	13	25	144	169	169
d	20	21	29	400	441	841	841
e	12	35	37	144	1225	1369	1369

The numbers in the last two columns are the same.

Exercise 6C

1 $h^2 = 7^2 + 24^2$, $h^2 = 49 + 576$, $h^2 = 625$, $h = \sqrt{625} = 25$

2 **a** 13 cm **b** 17 cm **c** 26 cm **d** 20 cm

3 **a** 3.61 cm **b** 9.43 cm **c** 5.66 cm **d** 6.08 cm

4 $a^2 + 4^2 = 5^2$, $a^2 + 16 = 25$, $a^2 = 9$, $a = \sqrt{9}$, so $a = 3$

5 **a** 8 cm **b** 6 cm **c** 9 cm **d** 16 cm

6 **a** 7.81 cm **b** 8.94 cm **c** 9.54 cm **d** 10.30 cm

7 **a** **i** 7.07 cm **ii** 4.24 cm **b** **i** 8.06 cm **ii** 9.22 cm

8 24.5 cm

9 12 cm

10 6 cm and 11.4 cm

11 26 and 16.6 cm

12 39.4 cm

13 **a** 54 cm^2 **b** 420 mm^2

14 $29^2 = 20^2 + 21^2$ and $41^2 = 40^2 + 9^2$, so A and C are right-angled.
$18^2 \neq 15^2 + 9^2$ so B is not right-angled.

15 20 units