Chapter 3
Test

Name: _____

1. Calculate the perimeter of this figure.

2·1 m

6·8 m

2·3 m

9·6 m

5·8 m

4·7 m

_____

_____

_____

_____

2. Chris has made a circular cushion of radius 20 cm.

Lace to be attached around the outside edge needs to be $2\frac{1}{2}$ times the length before being gathered up to fit. What length of lace is needed before it is gathered? (Answer to the nearest cm.)

_____

_____

_____

3. Find the areas of these figures, giving your answers to the nearest 0.1 m^2.

a.   b.

1·27 m

1·84 m

12·7 m

85 cm

a.

_____

_____

_____

_____
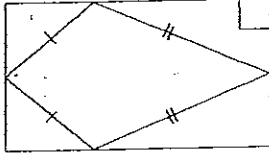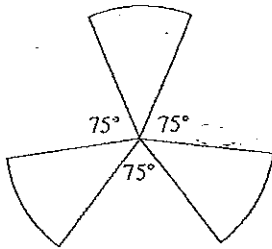
b.

_____

_____

_____

4. A kite is inscribed in a rectangle whose dimensions are 70 cm and 33 cm. What is the area of the kite?

_____

_____

_____

5. A rhombus has an area of 86 cm^2. One diagonal is 12.9 cm long. Find the length of the other diagonal.
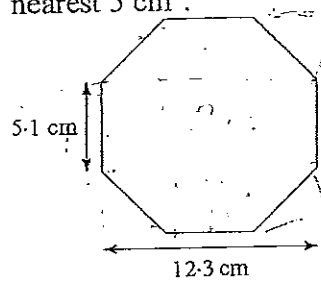
_____

_____

_____

6. The figure below has been cut out of a circular sheet of cardboard of radius 15 cm.

a. Calculate the perimeter, to 4 significant figures.

_____

_____

b. Calculate the area, to 1 decimal place.

_____

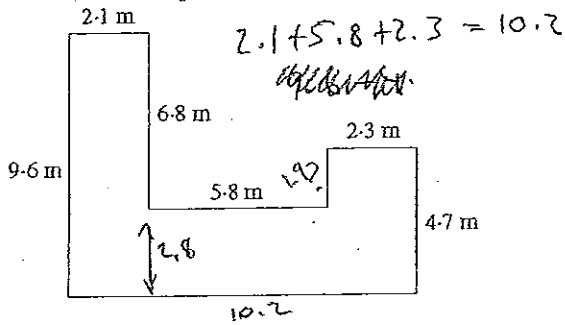7. Find the area of the regular octagon, to the nearest 5 cm^2.

5·1 cm

12·3 cm

_____

_____

_____

Chapter 3
Test

Name: _Renecia Lowe 9M4_

1. Calculate the perimeter of this figure.

2.1 m
6.8 m
2.3 m
9.6 m
5.8 m
4.7 m
9.2
2.8
10.2

$2.1 + 5.8 + 2.3 = 10.2$

$p = 9.6 + 2.1 + 6.8 + 5.8 + 1.9 + 2.3 + 4.7$
$+ 10.2$
$= 43.4 \, m$ ✓ 3

2. Chris has made a circular cushion of radius 20 cm.

40 cm

Lace to be attached around the outside edge needs to be $2\frac{1}{2}$ times the length before being gathered up to fit. What length of lace is needed before it is gathered? (Answer to the nearest cm.)

$p \text{ of Circle} = 40\pi \doteq 125.7 \, cm \, (1DP)$

$2\frac{1}{2} \times 125.7 = 314.16 \, cm \, (2DP)$

The lace needs to be $314 \, cm$ in length.
(to nearest cm)

7

3. Find the areas of these figures, giving your answers to the nearest 0.1 m².

a.   b.

1.27 m
1.84 m
6.35
12.7 m
85 cm
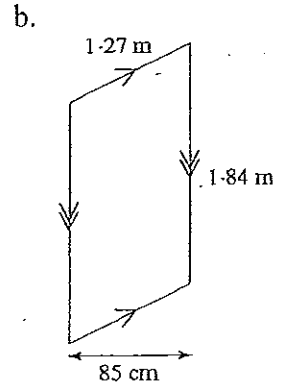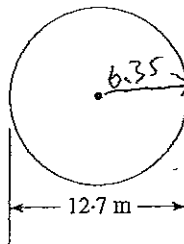
a. $\pi \times (6.35^2)$
$= 126.676...$
$= 126.7 \, m^2$ ✓

b. $a = 0.85 \times 1.84$
$= 1.56 \pi$
$= 1.6 \, m^2 \leftarrow 1.6$

11

6. a) $P = 6r + \frac{135}{360} \times 2\pi r$
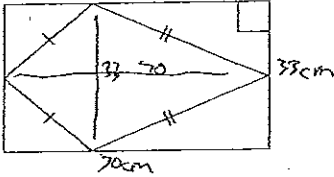
$= 6 \times 15 + \frac{3}{8} \times 2\pi \times 5$

$= 125.3$ cm

b) $A = \frac{3}{8} \times \pi r^2$

$= 265.1$ cm^2 (to 1 dec. pl)

4. A kite is inscribed in a rectangle whose dimensions are 70 cm and 33 cm. What is the area of the kite?

33 70   33cm

70cm
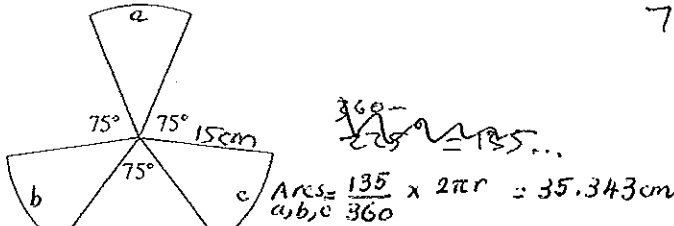
area $= \frac{1}{2} \times 70 \times 33$

$= 1155$ cm^2 ✓

5. A rhombus has an area of 86 cm^2. One diagonal is 12.9 cm long. Find the length of the other diagonal.

length $= 86 \div (12.9 \div 0.5)$

$= 13\frac{1}{3}$ cm

check !

$\frac{1}{2} \times 13\frac{1}{3} \times 12.9$

$= 86$ ✓

6. The figure below has been cut out of a circular sheet of cardboard of radius 15 cm.

a   75° 75° 15cm
      75°
b   c

$360 - 225 = 135...$

Arcs $= \frac{135}{360} \times 2\pi r = 35.343$ cm
a,b,c

a. Calculate the perimeter, to 4 significant figures.

Perimeter

$\pi \times 30 = 94.25$

$94.25 - 62.5\% $

$P = 35.34$ cm

$=$ Arcs $+ 6 \times 15$ cm

$= 35.343 + 90$

$= 125.3$ (to 4 s.f.)

b. Calculate the area, to 1 decimal place.

area $= 62.5\%$ of $\pi \times 225$

$= 62.5\%$ of 706.89

$= 441.8$ cm^2 (1 dp)

not 5/8

3 sectors

$= 3 \times \frac{135}{360} \times \pi (15)^2$

$= \frac{265.1}{}$ cm^2 (to 1 d.p)

7. Find the area of the regular octagon, to the nearest 5 cm^2.

5.1 cm   62.73   12.3

4.4

12.3 cm
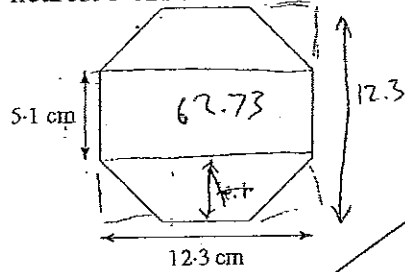
$\frac{12.3 + 5.1}{2} \times 4.1$

$= 35.67$

$\times 2$

$= 71.34$

area $= 62.73 + 71.34$

$= 134.07$ cm^2

$= 135$ cm^2 (to nearest 5 cm^2)

7.

5.1

7   12.3 × 5.1
5.1cm   = 62.73
7.6

12.3cm
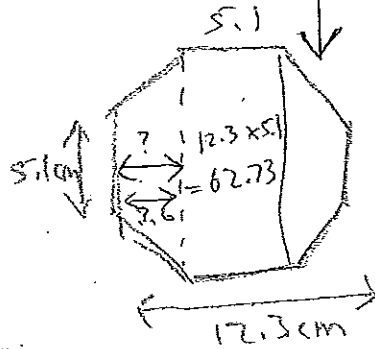
$= 5.1 + 12.3 +$

$= 31.32 \times 2$

$= 62.64$

(3)

$\frac{12.3 - 5.1}{2} = 3.6$

area $= 62.73 + 62.64$

$= 125.37$ cm

$= 125$ cm^2 (to nearest 5 cm^2)

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