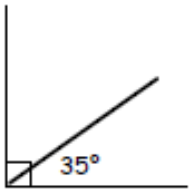
S1 Block Test Three Revision Booklet MP1

Angles

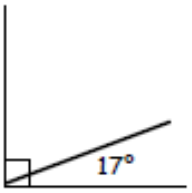
Exercise 1 Complementary & Supplementary Angles

1. Calculate the missing angles in each of the following :-

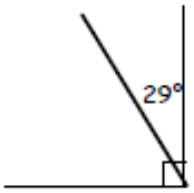
a



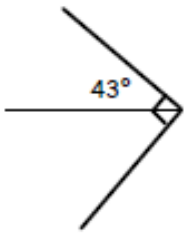
b



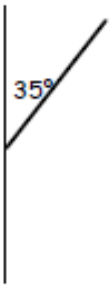
c



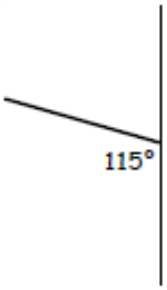
d



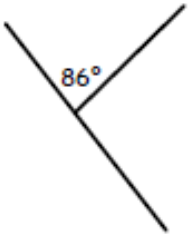
e



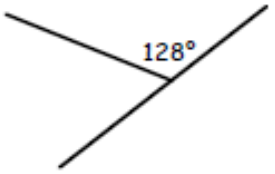
f



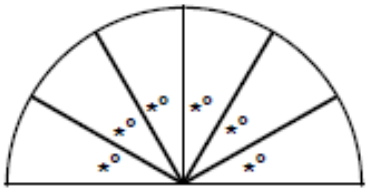
g



h

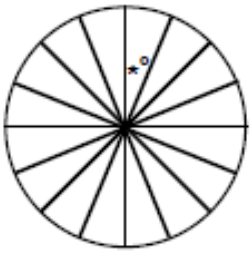


i



all equal angles

j



all angles equal

2. Write down the complement of :-

a 60° b 20° c 37° d 1°.

3. Write down the supplement of :-

a 30° b 110° c 77° d 9·5°.

4. What angle is its own :- a complement b supplement ?

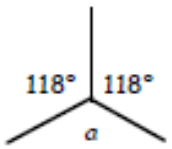
5. What is the **sum** of all the angles round a point ?

Angles

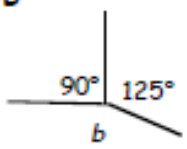
Exercise 2 Angles Round a Point

1. Calculate (do not measure) the sizes of the angles marked *a*, *b*, *c*, ...

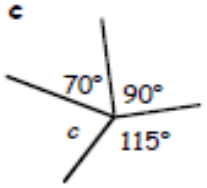
a



b



c



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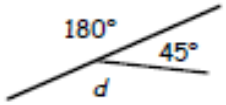

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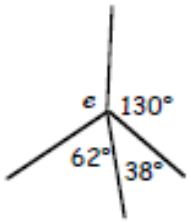

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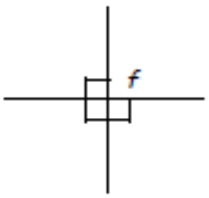
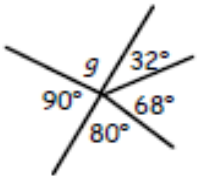
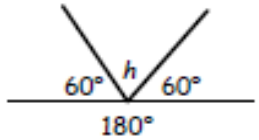


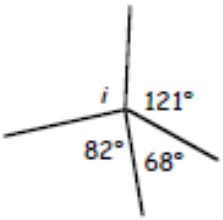
g



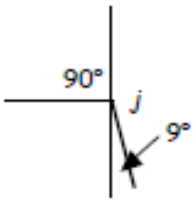
h



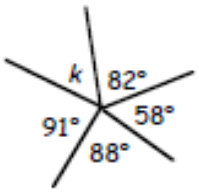
i



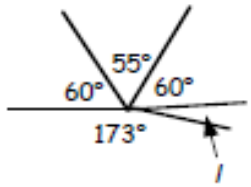
j



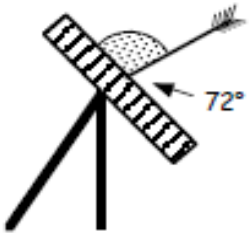
k

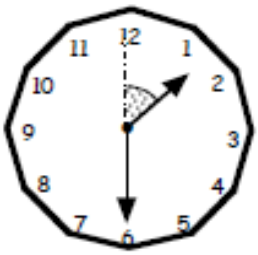


l



2. An arrow lands on a target as shown.
Calculate the size of the shaded angle.



3. 

This clock shows a time of 1.30.
Calculate the size of the shaded angle.

4. Five angles round a point are 39°, 122°, 77°, and two unknown **equal** angles.
Find one of the unknown angles.

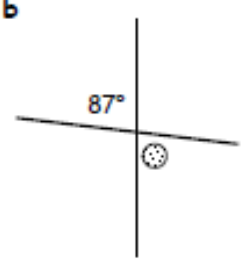
Angles

Exercise 3 Vertically Opposite Angles

1. Write down the sizes of all the angles marked with a ⊛ .

a

b



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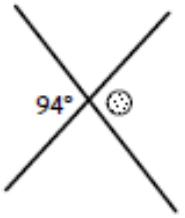

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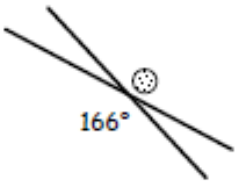
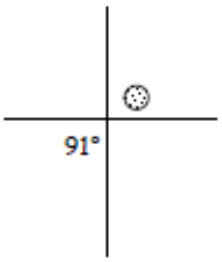


e



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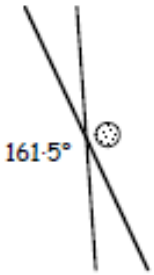
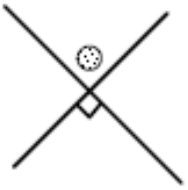
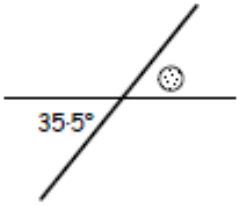


g



h

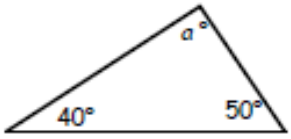


2. Sketch all the diagrams above and fill in **all** the missing angles.

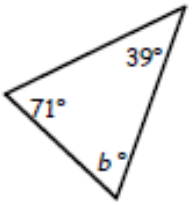
Exercise 4 Angles in a Triangle

1. Calculate the size of the angles marked *a*, *b*, *c*, ...

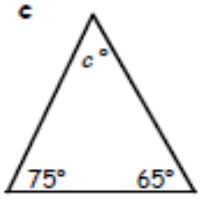
a



b



c



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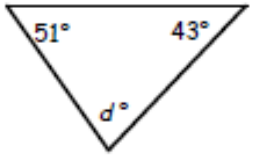

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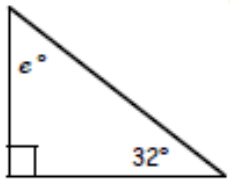

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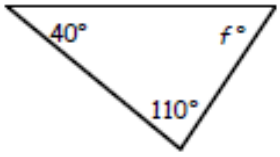

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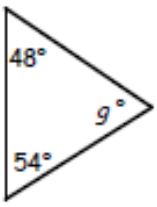

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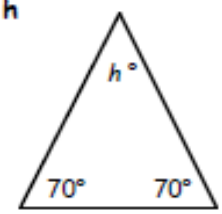
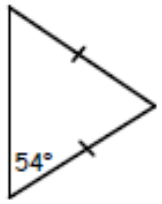


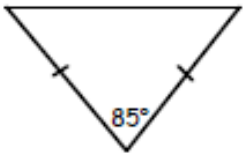
Anales

2. Copy each diagram below and fill in all the missing angles :-

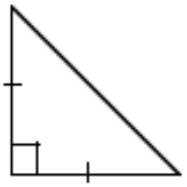
a



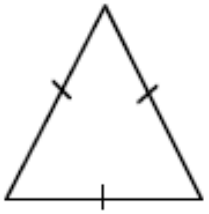
b



c

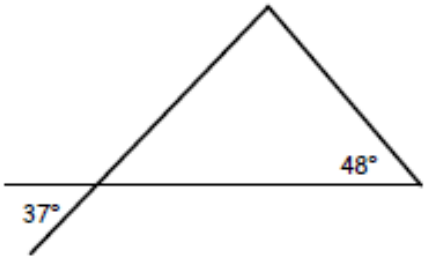


d

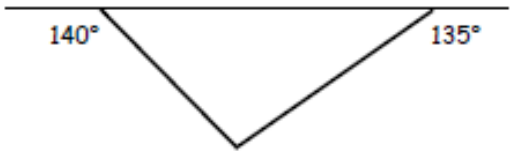


3. Copy each diagram below and fill in **all** the missing angles :-

a



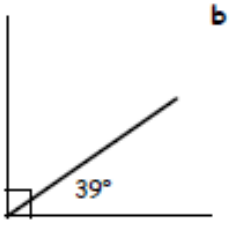
b



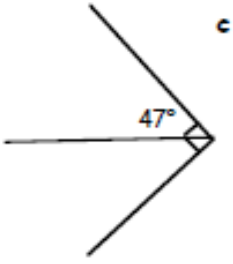
Exercise 5 Angles Mixed Exercise

1. Copy all the diagrams below filling in **all** missing angles :-

a



b



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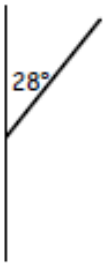

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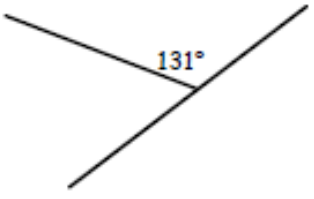

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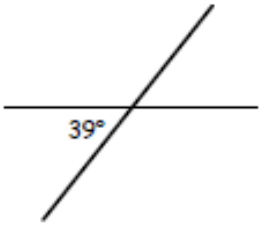

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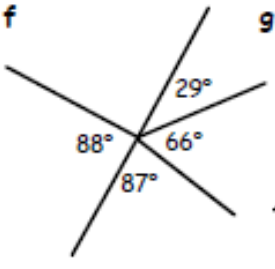
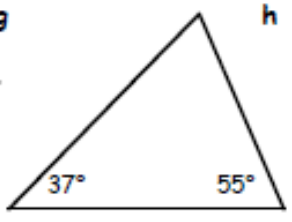
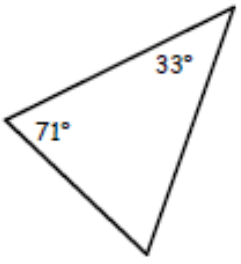


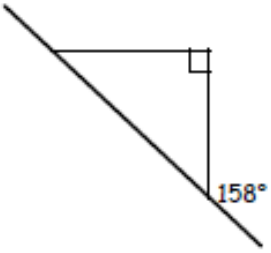
g



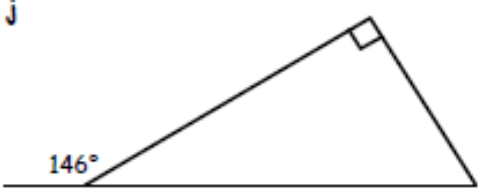
h



i



j



Answers

Answers to Chapter 3

Exercise 1 - Complementary & Supplementary Angles

1. a 55° b 73° c 61° d 47°
   e 145° f 65° g 94° h 52°
   i 30° j 22·5°
2. a 30° b 70° c 53° d 89°
3. a 150° b 70° c 103° d 170·5°
4. 45° b 90°
5. 360°

Exercise 2 - Angles Round a Point

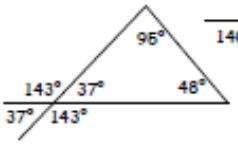
1. a 124° b 145° c 85° d 135°
   e 130° f 90° g 90° h 60°
   i 89° j 171° k 41° l 12°
2. 108°
3. 45°
4. 61°

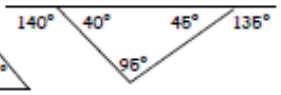
Exercise 3 - Vertically Opposite Angles

1. a 140° b 87° c 94° d 166°
   e 91° f 161·5° g 90° h 35·5°
2. See drawings

Exercise 4 - Angles in a Triangle

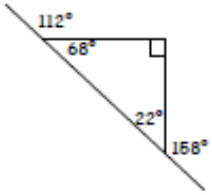
1. a 90° b 70° c 40° d 86°
   e 58° f 30° g 78° h 40°
2. a 54°, 72° b 47·5°, 47·5°
   c 45°, 45° d 60°, 60°, 60°
3. a b

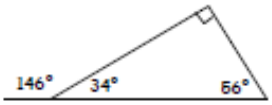




Exercise 5 - Mixed Exercise

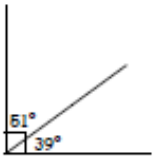
1. a 51° b 43° c 152° d 49°
   e 39°,141° f 90° g 88° h 76°
   i j

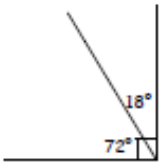




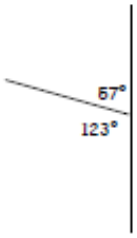
Review - Revisit - Revise Exercise 3

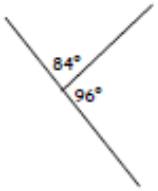
1. a 25° b 65°
2. a b





c d



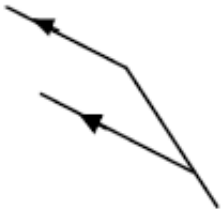


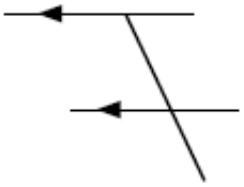
More Angles

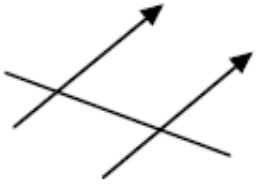
Exercise 1 Corresponding Angles

1. Copy and complete :- Corresponding (F) angles are e.....

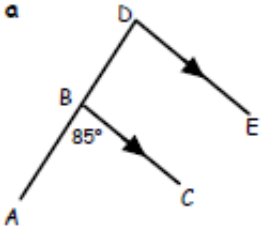
2. Copy the diagrams and mark all the corresponding (F) angles with a * :-

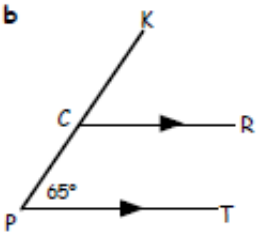
a 

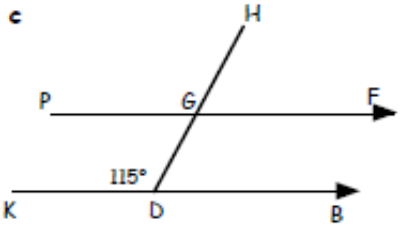
b 

c 

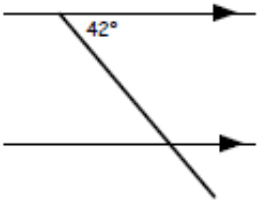
3. Write down the sizes of all the angles in the following diagrams :- ($\angle ABC = 85°$).

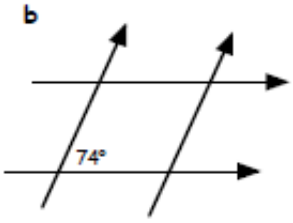
a 

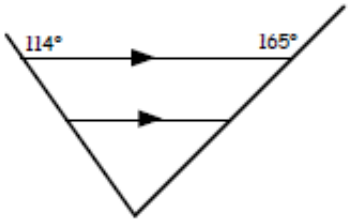
b 

c 

4. Sketch each of the following and fill in all the missing angles :-

a 

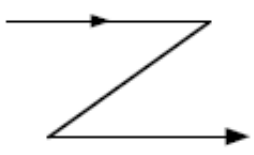
b 

c 

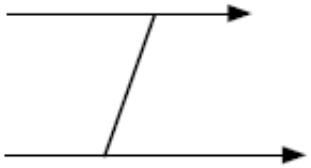
Exercise 2 Alternate Angles

1. Copy and complete :- Alternate (Z) angles are e.....

2. Copy the diagrams and mark all the alternate (Z) angles with a * :-

a 

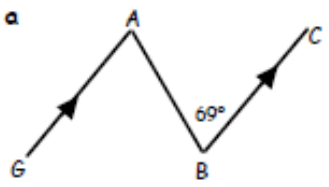
b 

c 

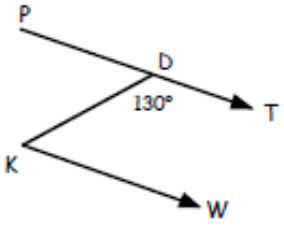
More Angles

3. Write down all the sizes of the angles in the following diagrams :- (e.g. $\angle ABC = 69°$).

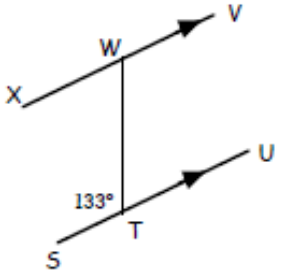
a



b

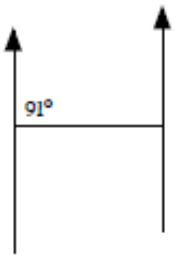


c

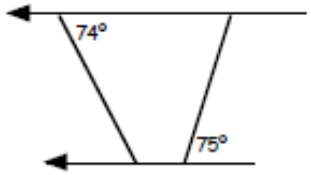


4. Sketch each of the following and fill in all the missing angles :-

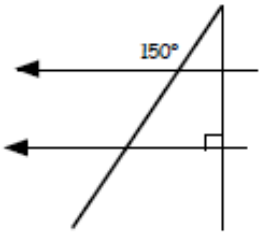
a



b



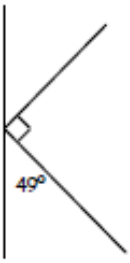
c



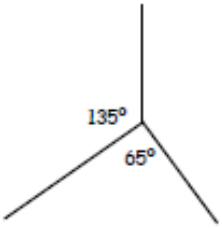
Exercise 3 **Mixed Exercise**

1. Make a neat rough sketch of each of the following diagrams.
   Fill in all the missing angles.

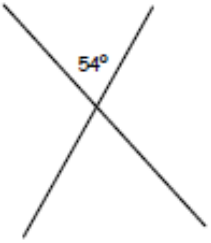
a



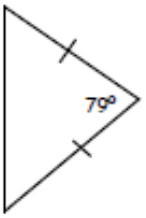
b



c

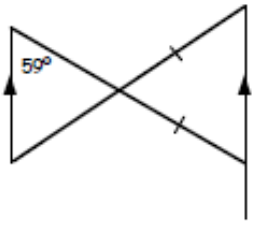


d

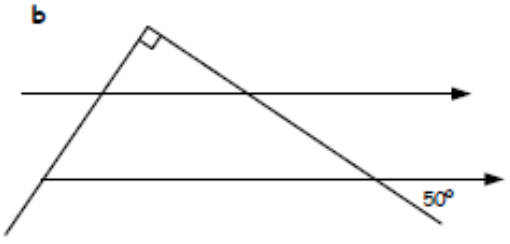


2. Sketch each of the following and fill in all the missing angles :-

a



b



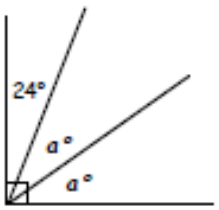
More Angles

1. a What size of angle is **complimentary** to 34° ?

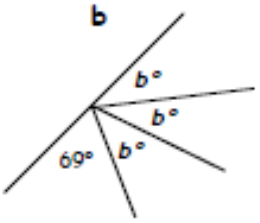
   b Write down the **supplement** of 85°.

2. Make a neat sketch of each diagram and find the value of each letter :-

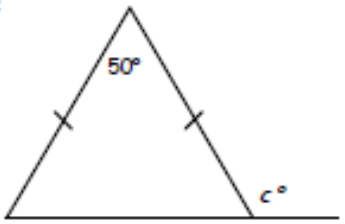
a



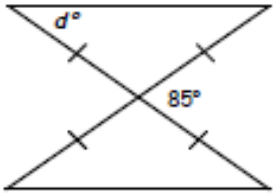
b



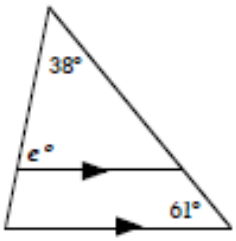
c



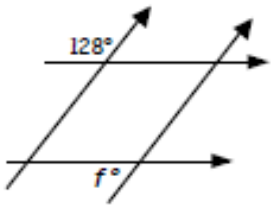
d



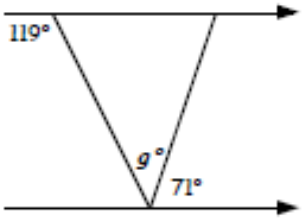
e



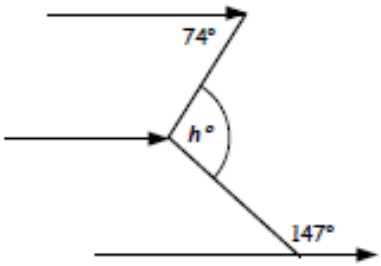
f



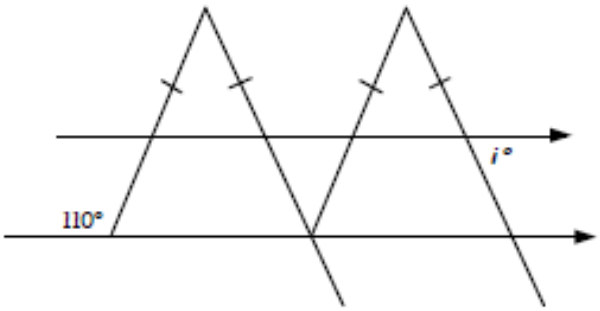
g



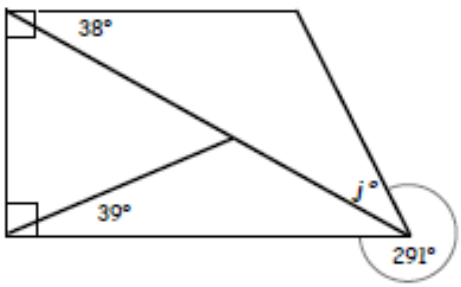
h



i



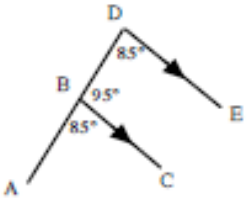
j



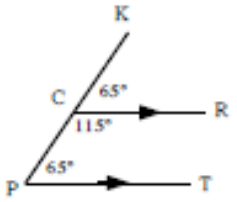
Answers

Ch 6 Ex 1 Corresponding Angles

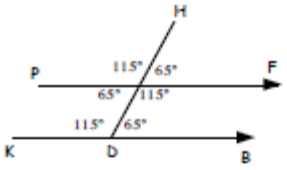
1. equal
2. Check diagrams
3. a



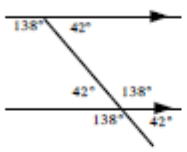
b



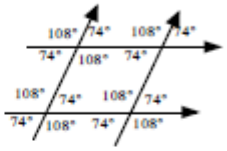
c



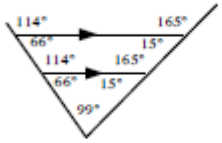
4. a



b

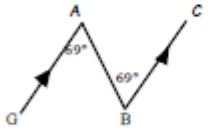


c

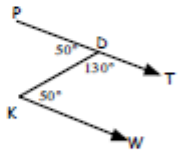


Ch 6 Ex 2 Alternate Angles

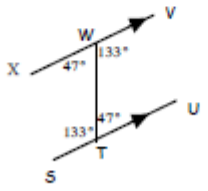
1. equal
2. check diagrams
3. a



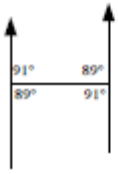
b



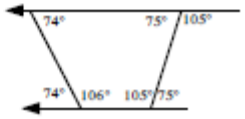
c



4. a

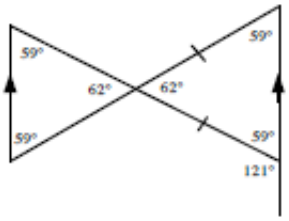


b

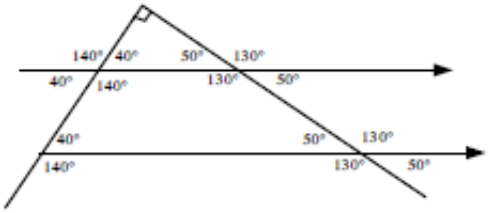


Ch 6 Ex 3 Mixed Exercise

1. a 41° b 160°
   c 54°, 126°, 126° d 50·5°, 50·5°
2. a



b



Ch 6 Revisit – Review – Revise 6

1. a 56° b 95°
2. a 33° b 37° c 115°
   d 42·5° e 81° f 52°
   g 48° h 107° i 70°
   j 31°

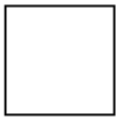
Ch 6 Cumulative Ex 2 (Chapters 1-6)

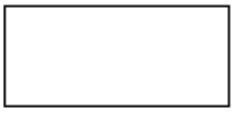
1. a 9 b 169 c 81
   d 11 e 2
2. small 90p per 50g, large 80p per 50g
   large tin is cheaper
3. a 60 b 1
4. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29
5. 2 x 2 x 2 x 5 x 7
6. a $y = 4x - 1$ b $y = x - 5$
7. a 5 b 7 c 3
   d 1 e 2 f -5
8. a $x < 5$ b $x < 4$ c $x \geq 4$
9. a $x = 107°$ b $y = 122°$
10. 1 didlii – 25000 splinkiis

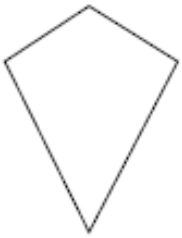
Symmetry

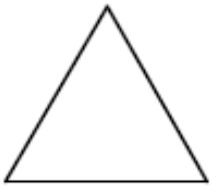
Exercise 1 Line Symmetry

1. Make a neat tracing of each of the following shapes.

a 

b 

c 

d 

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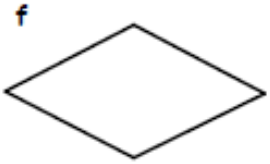
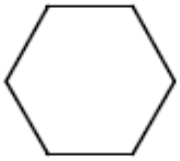
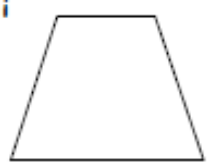
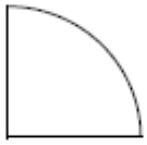
f 

g 

h 

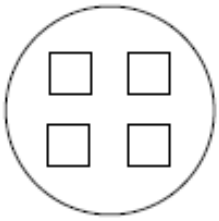
i 

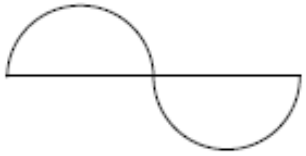
j 

k 

l 

m 

n 

o 

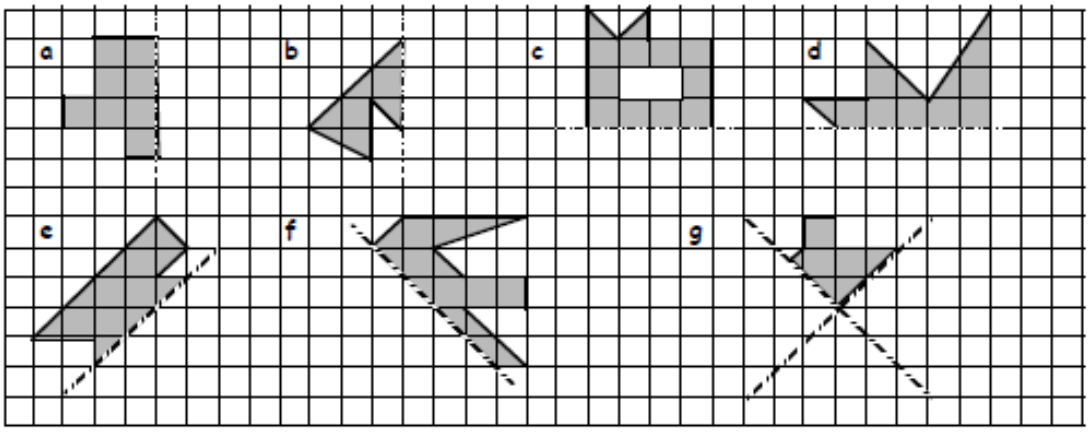
2. a For each shape you have traced (or copied) show all lines of symmetry.
   b Write down next to each shape how many lines of symmetry it has.

3. Make a list of those capital letters of the alphabet that have lines of symmetry.

A B C .....

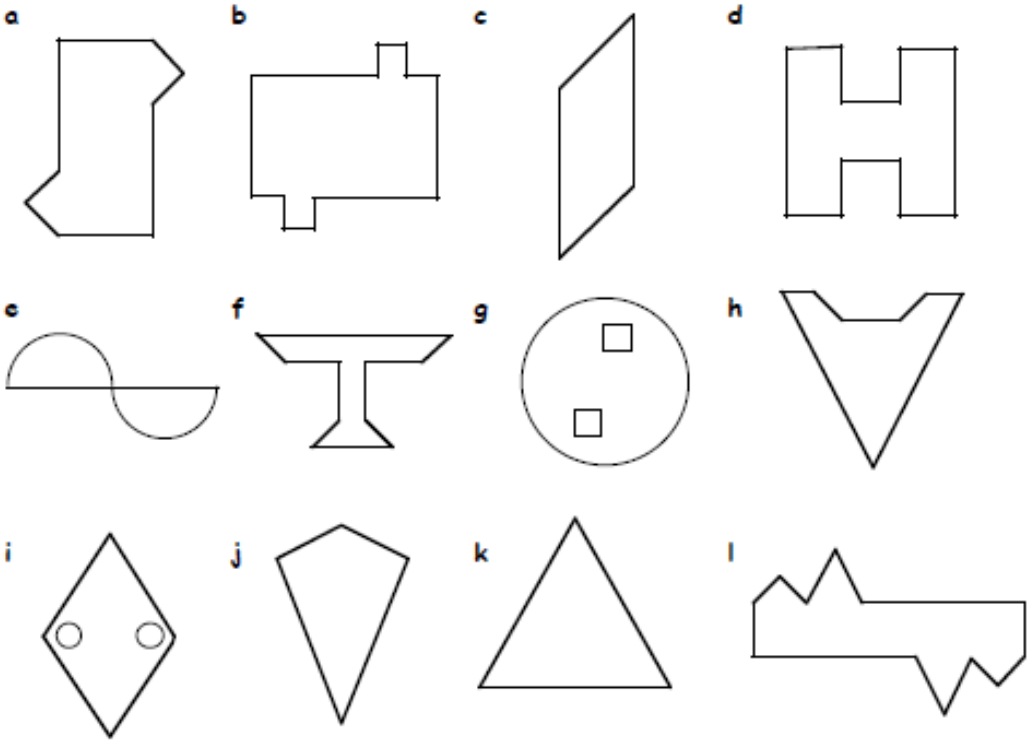
Symmetry

4. Copy each of the following shapes neatly and complete each one such that the **dotted** line is a line of symmetry each time.



Exercise 2 Rotational Symmetry

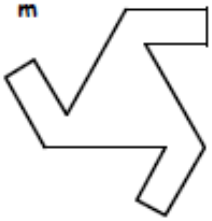
1. Which of the following shapes have **half-turn** symmetry ? (Answer **yes** or **no**).



continues over the page ...

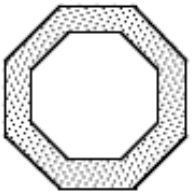
Symmetry

m

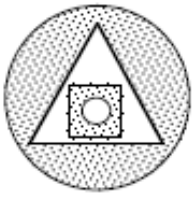


n

o



p



2. For each shape in Question 1, state the **order** of symmetry.

3. a Which seven capital letters of the alphabet have $\frac{1}{2}$-turn symmetry ?

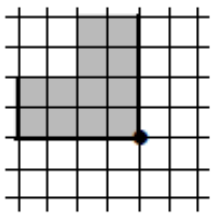
A B C .....

b Of these seven letters, only three do **not** have a line of symmetry.
Which three ?

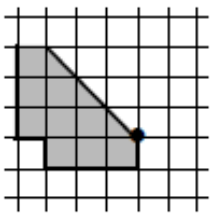
Exercise 3 Creating a Shape with Half-turn Symmetry

1. Make a copy of each of the following shapes.
Create a shape which has half turn symmetry by rotating each shape by 180° about the dot.

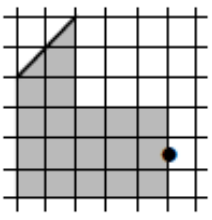
a



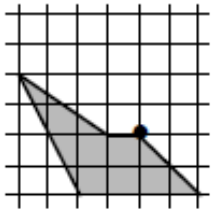
b



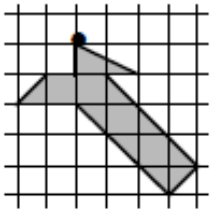
c



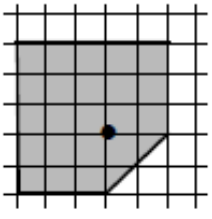
d



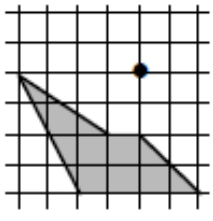
e



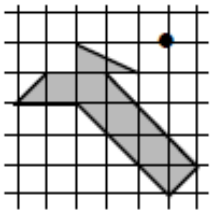
f



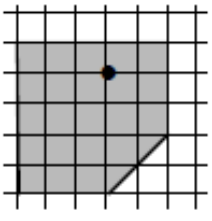
g



h



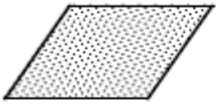
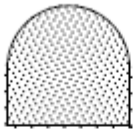
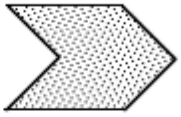
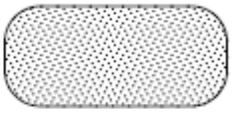
i

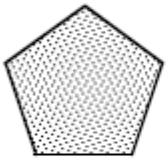
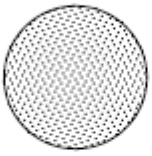
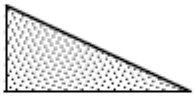
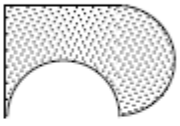


Symmetry

Exercise 4 Translation (Slide) Symmetry

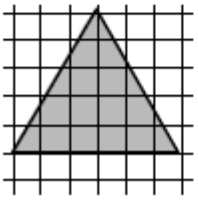
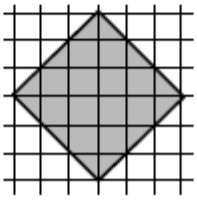
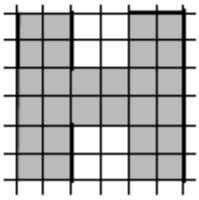
1. Which of the following shapes would **not** "tile the plane".

a  b  c  d 

e  f  g  h 

2. a Draw each shape shown below and shade it in.

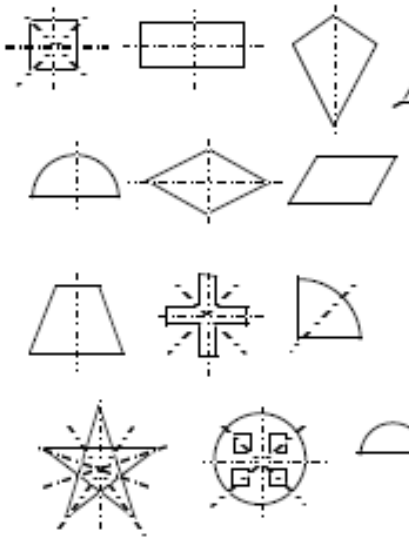
   b Tile the plane using 6-8 congruent tiles

(i)  (ii)  (iii) 

Answers

Ch 11 Ex 1 Line Symmetry

1.

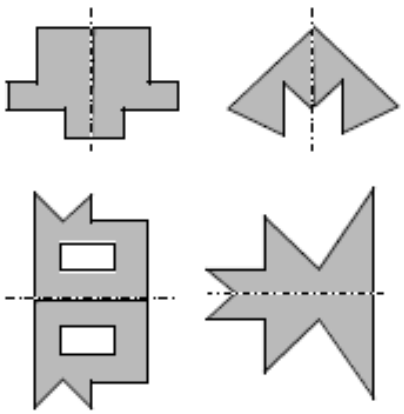


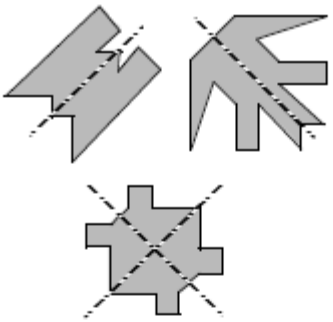
2.

a	4	b	2	c	1
d	3	e	1	f	2
g	0	h	6	i	1
j	4	k	1	l	1
m	5	n	4	o	0

3. A, B, C, D, E, H, I, K, M, O, (Q), T, U, V, W

4.





Ch 11 Ex 2 Rotational Symmetry

1.

a	yes	b	yes	c	yes
d	yes	e	yes	f	no
g	yes	h	no	i	yes
j	no	k	no	l	yes
m	no	n	yes	o	yes
p	no				

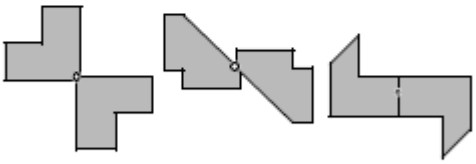
2.

a	$\frac{1}{2}$, 2	b	$\frac{1}{2}$, 2	c	$\frac{1}{2}$, 2
d	$\frac{1}{2}$, 2	e	$\frac{1}{2}$, 2	f	--
g	$\frac{1}{2}$, 2	h	--	i	$\frac{1}{2}$, 2
j	--	k	$\frac{1}{3}$, 3	l	$\frac{1}{2}$, 2
m	$\frac{1}{3}$, 3	n	$\frac{1}{6}$, 6	o	$\frac{1}{8}$, 8

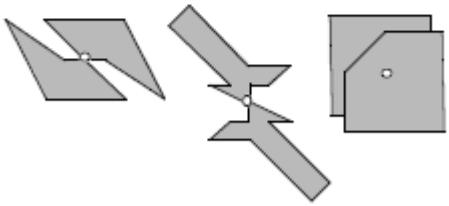
3. a H, I, N, O, S, X, Z b N, S, Z

Ch 11 Ex 3 Half-turn Symmetry

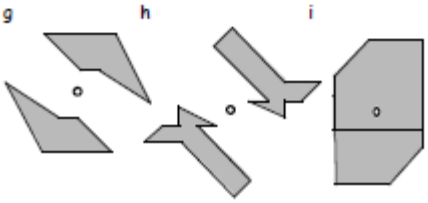
1. a b c



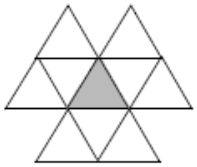
d e f



g h i



1. b d f
2. (i)



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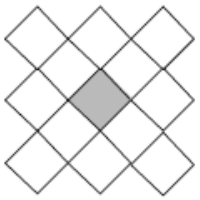
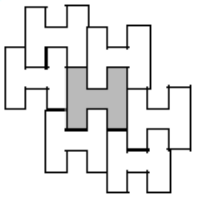


(iii)

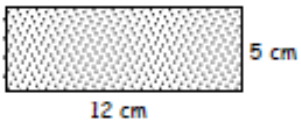


Area/Perimeter

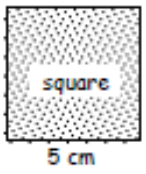
Exercise 1 Perimeter & Area

1. Calculate :- (i) the perimeter (ii) the area of each shape below :-

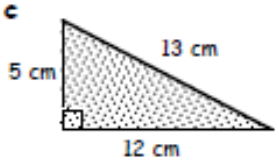
a



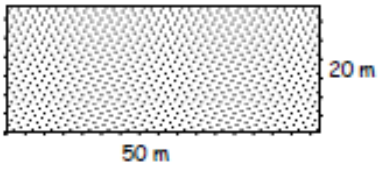
b



c

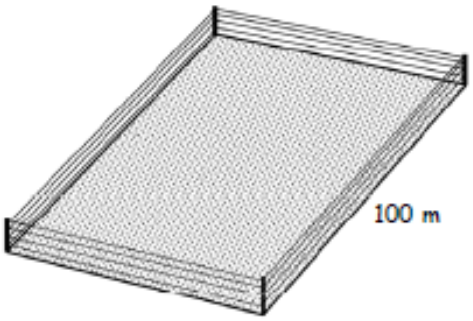


d



e

2. Four strips of electrical wire fence surround a rectangular field with area 8000 square metres.



a Find the width of the field given that the length is 100 metres.

b What is the total length of wire needed ?

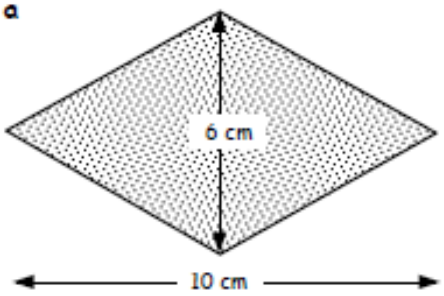
c The wire costs 18p per metre.

How much will the wire cost in total ?

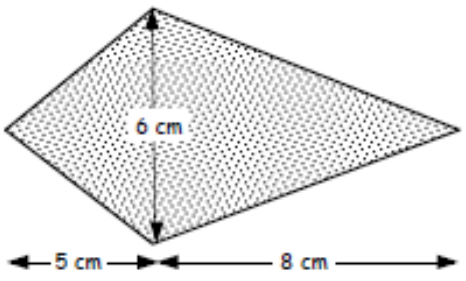
Exercise 2 Area of a Rhombus & Kite

1. Using $A = \frac{1}{2}(D \times d)$, calculate the **area** of each rhombus and kite below :-

a

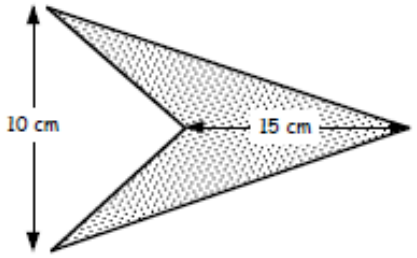


b

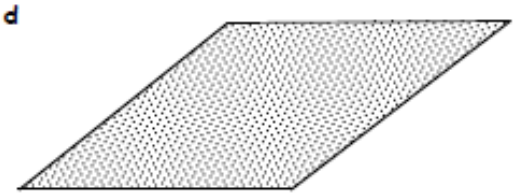


Area/Perimeter

1. c



d

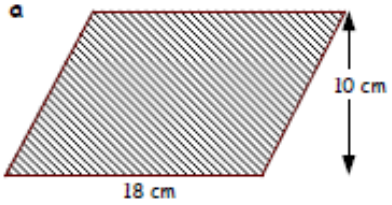


Rhombus with diagonals 12 cm and 9 cm

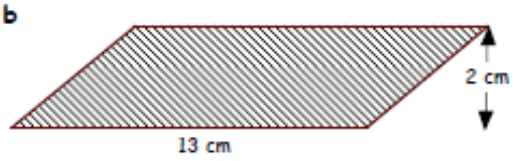
Exercise 3 Area of a Parallelogram

1. Using $A = B \times H$, calculate the **area** of each parallelogram below :-

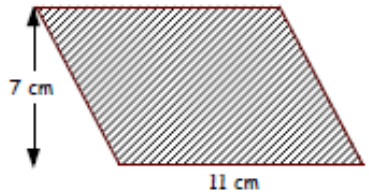
a



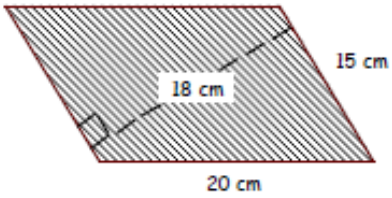
b



c



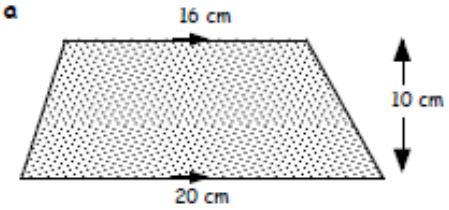
d



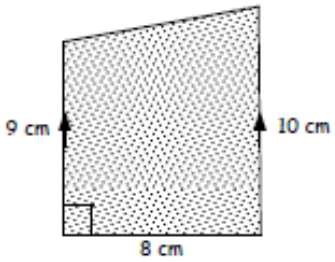
Exercise 4 Area of a Trapezium

1. Calculate the **area** of each trapezium below :-

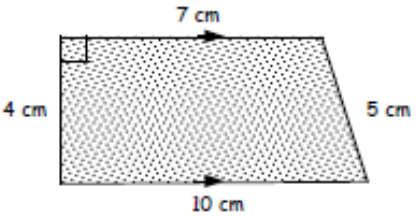
a



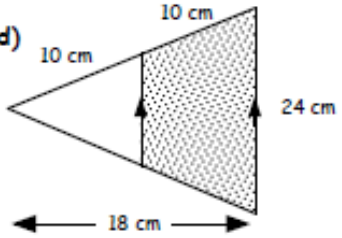
b



c



d (Hard)

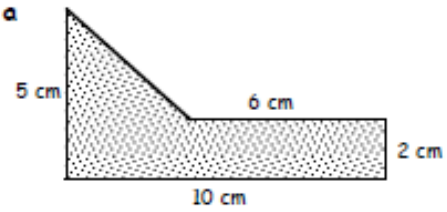


Area/Perimeter

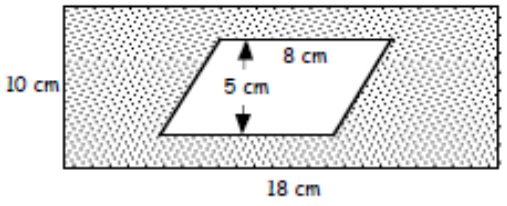
Exercise 5 Composite Areas

1. Calculate the **area** of each composite shape below :-

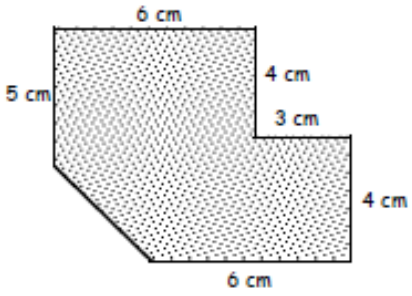
a



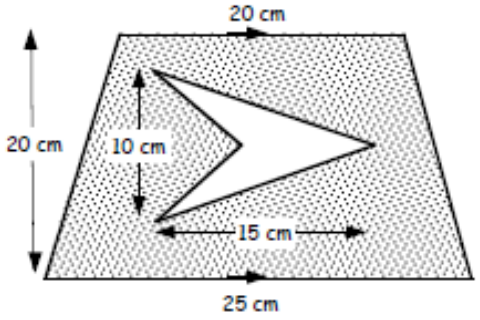
b



c



d



Answers

Exercise 1 - Perimeter & Area

1. a (i) 34 cm (ii) 60 cm^2
   b (i) 20 cm (ii) 25 cm^2
   c (i) 30 cm (ii) 30 cm^2
   d (i) 140 m (ii) 1000 m^2
   e (i) 440 cm (ii) 4000 cm^2
2. a 80 m b 1440 m c £259·20

Exercise 2 - Area of a Rhombus & Kite

1. a 30 cm^2 b 39 cm^2 c 75 cm^2 d 54 cm^2

Exercise 3 - Area of a Parallelogram

1. a 180 cm^2 b 26 cm^2 c 77 cm^2 d 270 cm^2

Exercise 4 - Area of a Trapezium

1. a 180 cm^2 b 76 cm^2 c 34 cm^2 d 162 cm^2

Exercise 5 - Composite Area

1. a 26 cm^2 b 140 cm^2 c 55·5 cm^2 d 375 cm^2

Better Buys

Exercise 2 **Best Buys - Money Management**

1. A tin of dog food is offered in two different sizes.
   - The small tin costs £3·45 for 600 grams.
   - The large tin costs £6 for one kilogram.

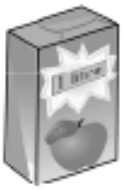
   Which one is the better deal ? Explain.

2. Which is the better deal for each of the following and explain your answers ?
   a A box of fudge costs £3·99 for a 475 gram box or £5·20 for a 650 gram box.
   b Tennis balls – box of 9 for £19·26 or box of 12 for £25·68.

3. Cartons of apple juice are sold in different sizes.

   Which is the best deal ? *Explain.*

450 ml costs	-	81p
1 litres costs	-	£1·60
2·5 litres costs	-	£3·50



Answers

Ch 2 Ex 2 Best Buys - Money Management

1. Small 57·5p per 100g Large 60p per 100g
   Small tin better value
2. a small 21p per 25g, large 20p per 25g.
   Larger is cheaper.
   b 9 box €2·14 each, 12 box €2·14. Same price.
3. 450 ml 9p per 50 ml, 1l 8p per 50 ml,
   2·5 l 7p per 50 ml. Largest is best