



# Keep-uppI Maths Workout



Year 6 - Pack 4



KPIs for Term 2 (continued ...)

Compare and classify 2-D and 3-D shapes

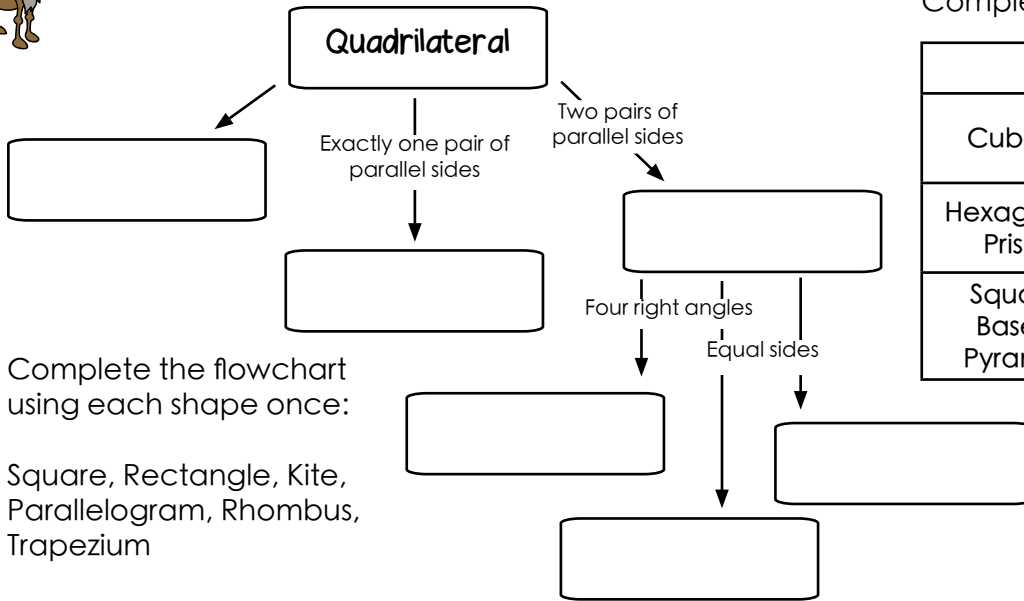
Know and use angle properties of straight lines, at a point and in shapes

Draw simple shapes using given lengths and angles



# Classify Shapes Workout

Workout A



Complete the flowchart using each shape once:

Square, Rectangle, Kite, Parallelogram, Rhombus, Trapezium

Complete the table:

	Faces	Vertices	Edges
Cuboid			
Hexagonal Prism			
Square Based Pyramid			

Workout B

# Missing Angles Workout

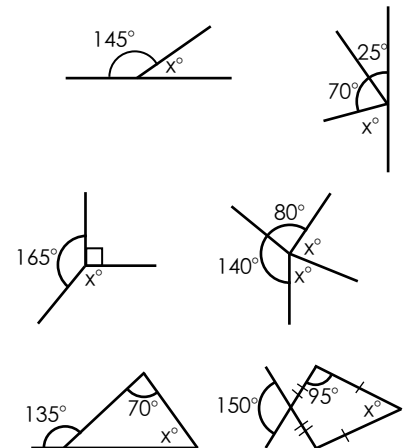
Complete the table for triangles

Angle 1	Angle 2	Angle 3
60°	40°	
55°		65°
95°	30°	
107°		40°
53°	71°	

Complete the table for quadrilaterals

Angle 1	Angle 2	Angle 3	Angle 4
60°	40°	120°	
55°		65°	140°
73°	73°	104°	
90°		104°	45°
53°	171°		29°

Find the value of x in each diagram



# Drawing Shapes Workout

Workout C

Draw an accurate diagram of ....

An equilateral triangle of side 3cm

A parallelogram with sides 2cm, 5cm, 2cm, 5cm and angles 130°, 50°, 130°, 50°

A right-angled triangle with sides 3cm, 4cm and 5cm



# Make Shape Game

Workout D

You need:

Cards Set A

Cards Set B

To play:

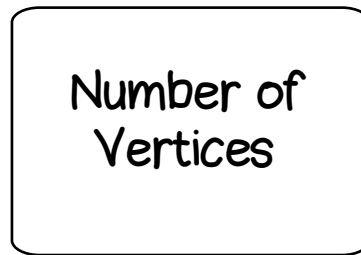
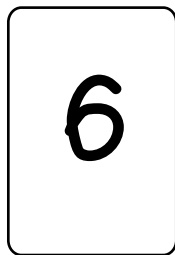
Card Sets A and B are shuffled.

Player 1 picks a card from Set A.

Player 2 picks a card from Set B.

Each player then tries to write down as many 3-D shapes with that property in 1 minute.

For example, if the cards are:



a player could have 'Triangular Prism' or 'Pentagonal Pyramid'.

To win:

A player scores one point for each correct 3-D shape.

The first player to get 10 points wins the Game.



## Shapes Cards

### Set A

4

5

6

8

10

12

Odd

Even

### Set B

Number of  
Vertices

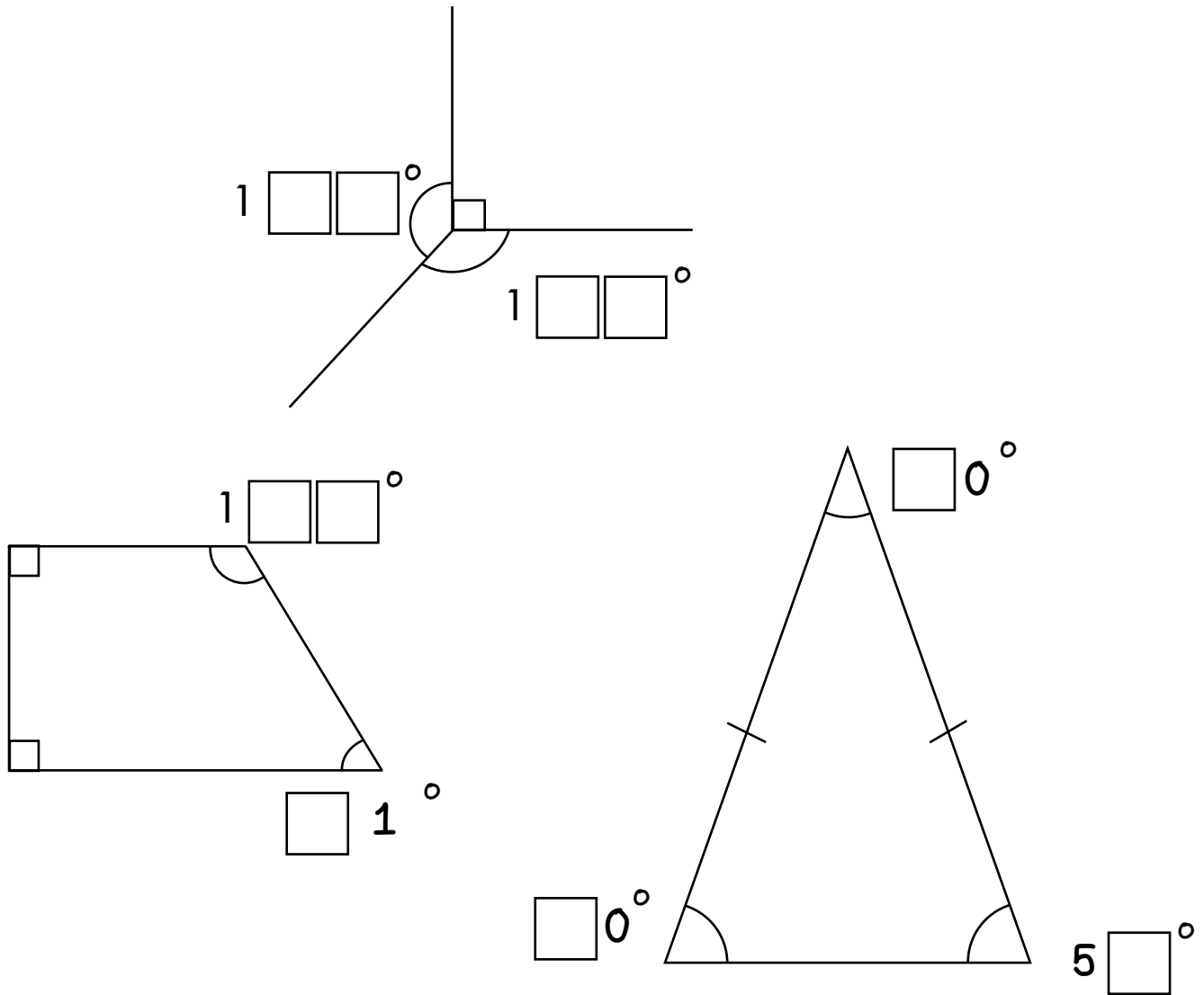
Number of  
Edges

Number of  
Faces



# Missing Angles Workout

Put different digits in the empty boxes so that the diagrams are correct.



Are there any boxes that it is impossible to put a digit in? Why?

Are there any boxes that could have any of the digits in them?

Now complete it using the digits 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 once each.

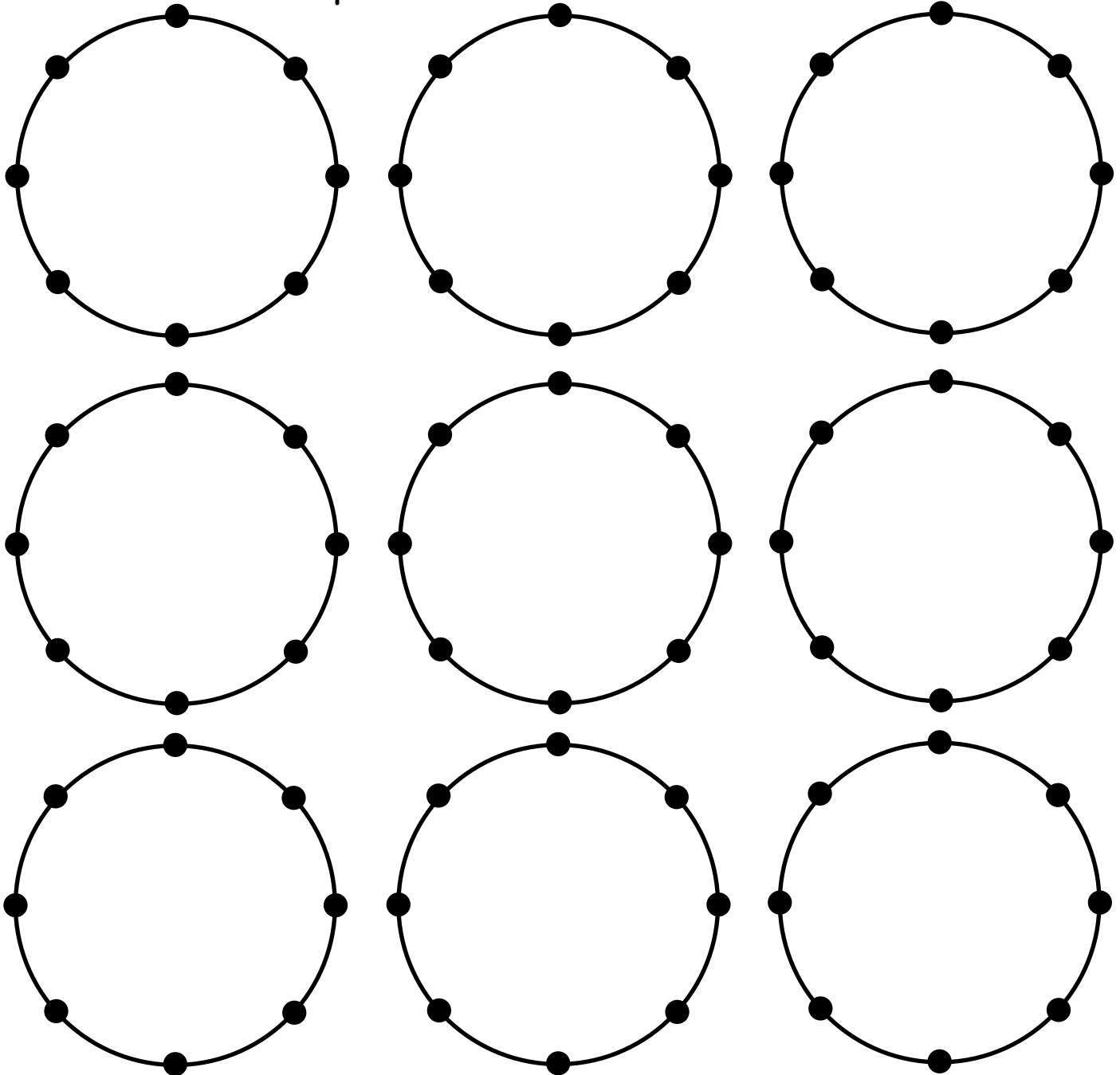


## 2-D Shape Investigation

Connect the dots with straight lines to investigate the number of different types of ...

- a) triangles
- b) quadrilaterals
- c) pentagons
- d) hexagons

... that can be created. Where possible, use the correct names to describe the shapes.



Investigate if all shapes have the same number of lines of symmetry



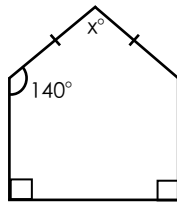
# Word Problem Workout

Workout G

1. Coco is drawing an isosceles triangle. Two angles are  $70^\circ$  and  $55^\circ$   
What is the size of the third angle?

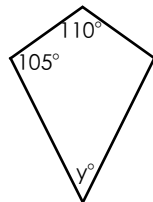
2. Colin is drawing an isosceles triangle. One angle is  $50^\circ$   
What are the possible sizes of the two other angles?  
(Hint: There are two pairs of answers!)

3. This the front view of the barn where Colin lives.



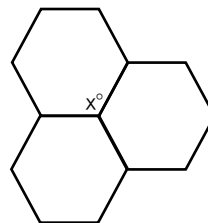
Find the value of  $x$ .

4. Coco is designing a kite.  
Calculate angle  $y$ .



5. Two angles meet at a point on a straight line.  
One angle is acute, greater than  $70^\circ$  and a prime number.  
The other angle is obtuse.  
Find all the possible pairs of angles

6. Coco loves to tessellate regular hexagons.  
By calculating the value of an angle ( $x$ )  
at each corner of a regular hexagon,  
prove why 3 regular hexagons will always  
meet at a point.



Create your own word problems involving angles in polygons.



# Matching Workout

Match the shapes with their property  
Fill in the missing buddies.

Equilateral Triangle		All sides are equal All angles are $90^\circ$
Square		All sides are equal Opposite sides are parallel
		Adjacent sides are equal Diagonals intersect at $90^\circ$
Parallelogram		All sides are equal All angles are $60^\circ$
Scalene Triangle		One pair of parallel sides All angles add up to $360^\circ$
Rhombus		All sides are different All angles add up to $180^\circ$
Kite		

Match the angles to the missing value in each diagram.  
Fill in the missing buddies.

$40^\circ$
$50^\circ$
$70^\circ$
$80^\circ$

Create your own Matching Workouts.