Colin and Coco's Daily Maths Workout

Workout 6.11 Answers

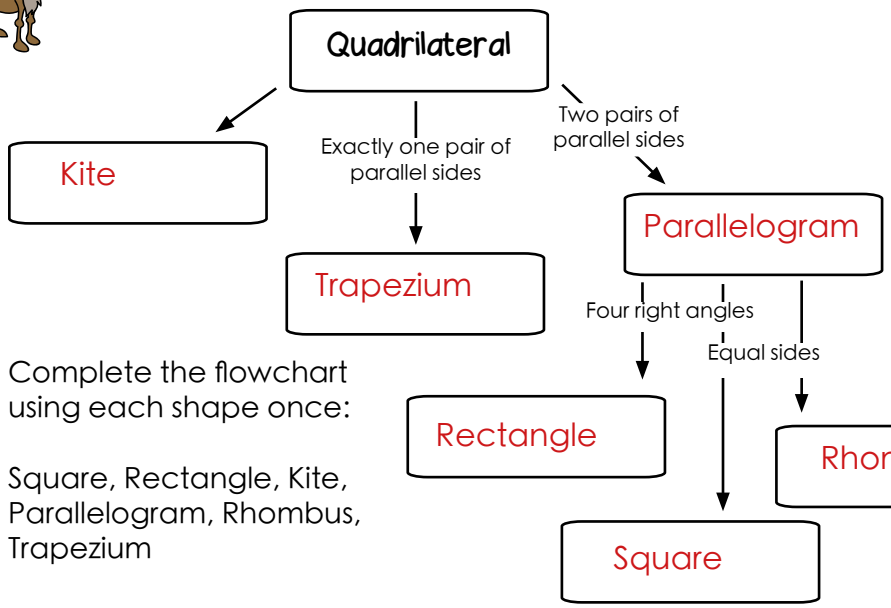
KeeP-uppI (Term 2 continued ...)

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	6	8	12
Hexagonal Prism	8	12	18
Square Based Pyramid	5	5	8

Workout B

Missing Angles Workout

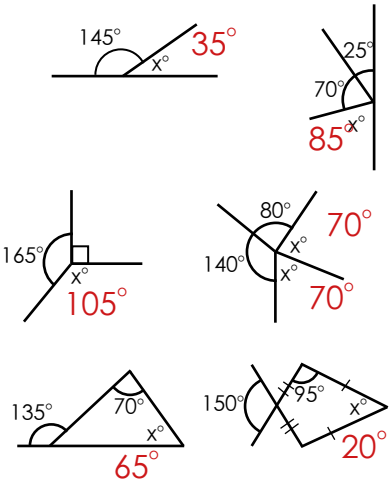
Complete the table for triangles

Angle 1	Angle 2	Angle 3
60°	40°	80°
55°	60°	65°
95°	30°	55°
107°	33°	40°
53°	71°	56°

Complete the table for quadrilaterals

Angle 1	Angle 2	Angle 3	Angle 4
60°	40°	120°	140°
55°	100°	65°	140°
73°	73°	104°	110°
90°	121°	104°	45°
53°	171°	107°	29°

Find the value of x in each diagram



Workout C

Drawing Shapes Workout

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

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:

6	Number of Vertices

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

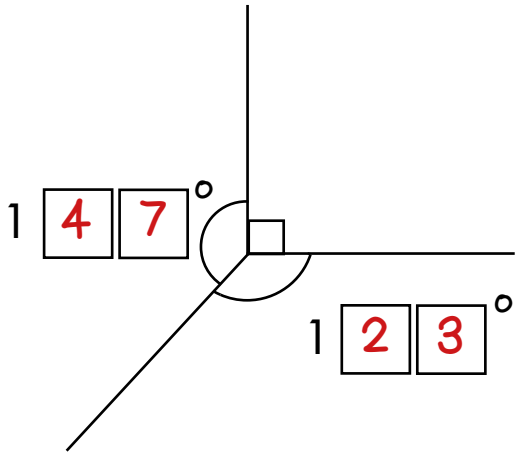
Number of Vertices	Number of Edges	Number of Faces

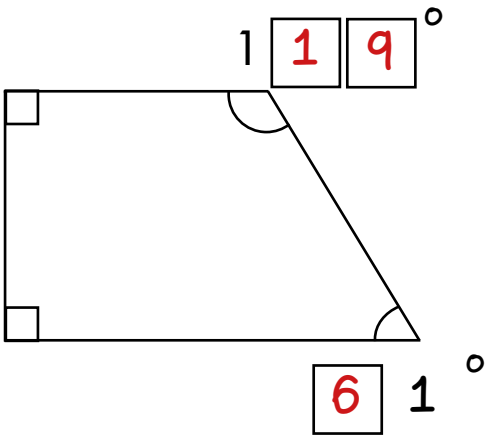
Missing Angles Workout

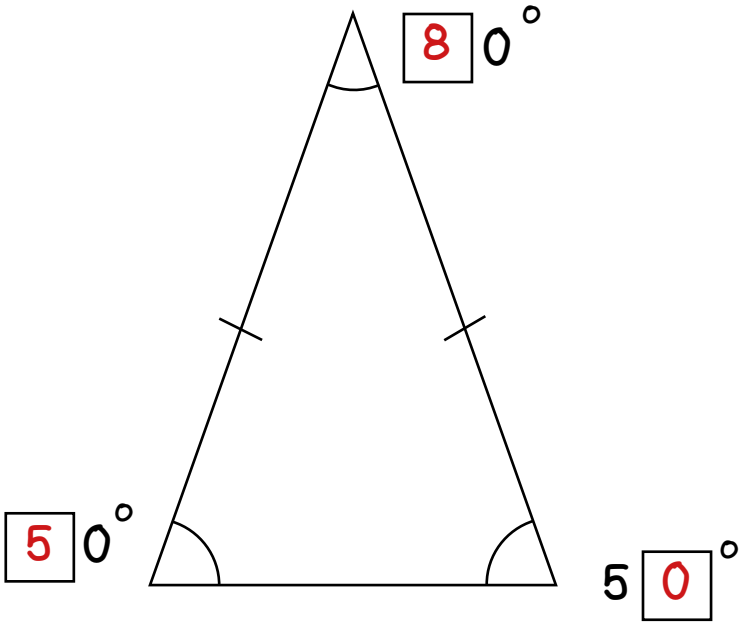
Workout E

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

Possible Solution







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.

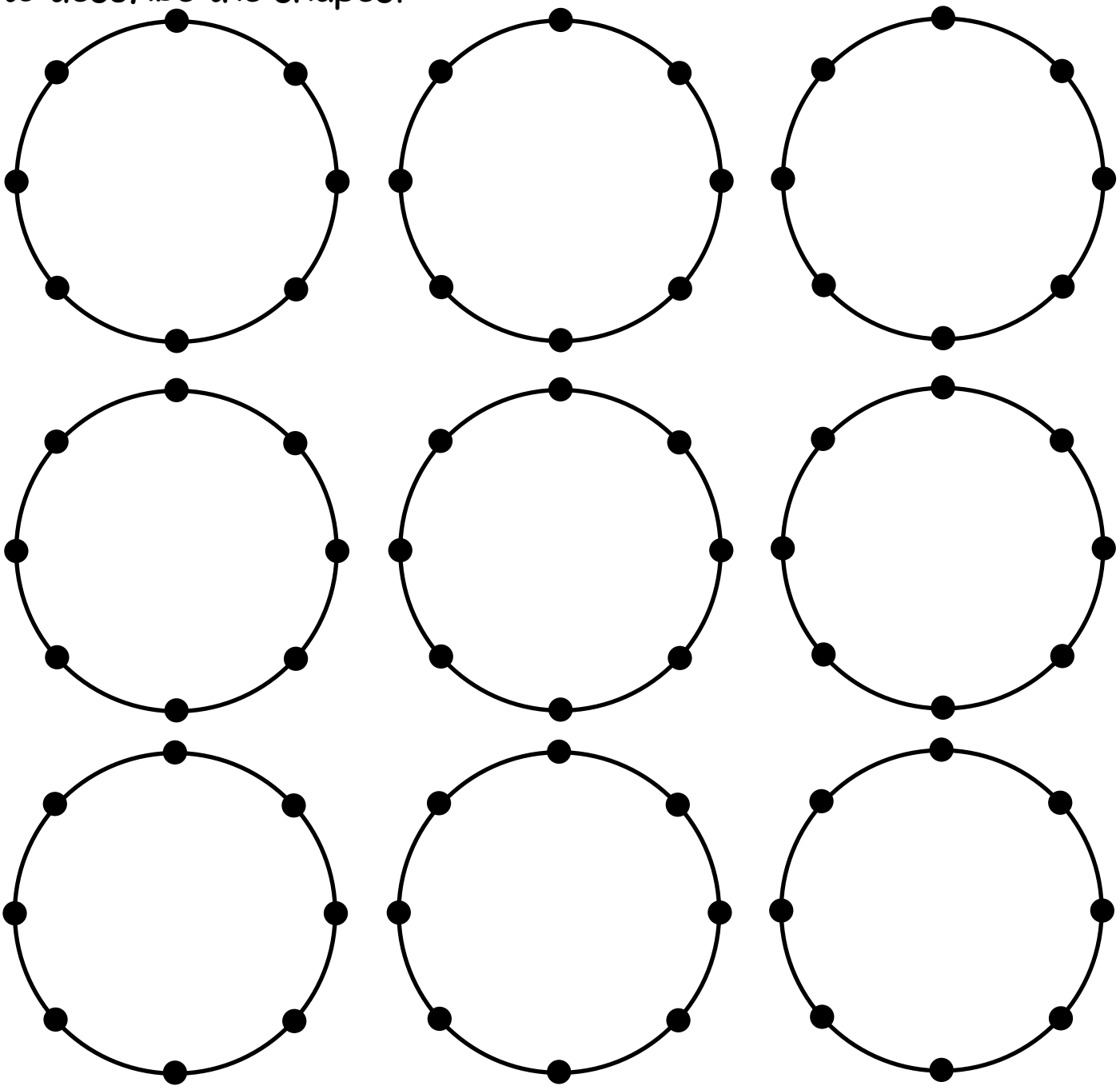
Workout F

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

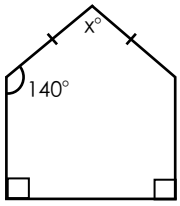
1. Coco is drawing an isosceles triangle. Two angles are 70° and 55°
   What is the size of the third angle?

   55°

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

   50° and 60°
   65° and 65°

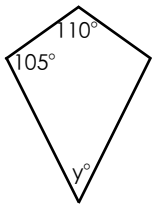
3. This the front view of the barn where Colin lives.



   Find the value of x.

   80°

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

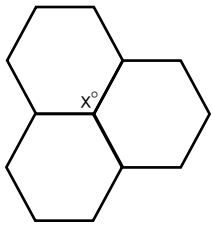


   40°

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

   71° and 109°
   73° and 107°
   79° and 101°
   83° and 97°
   89° and 91°

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.



   Angle at the corner = 120°
   120° +120° +120° = 360°

Create your own word problems involving angles in polygons

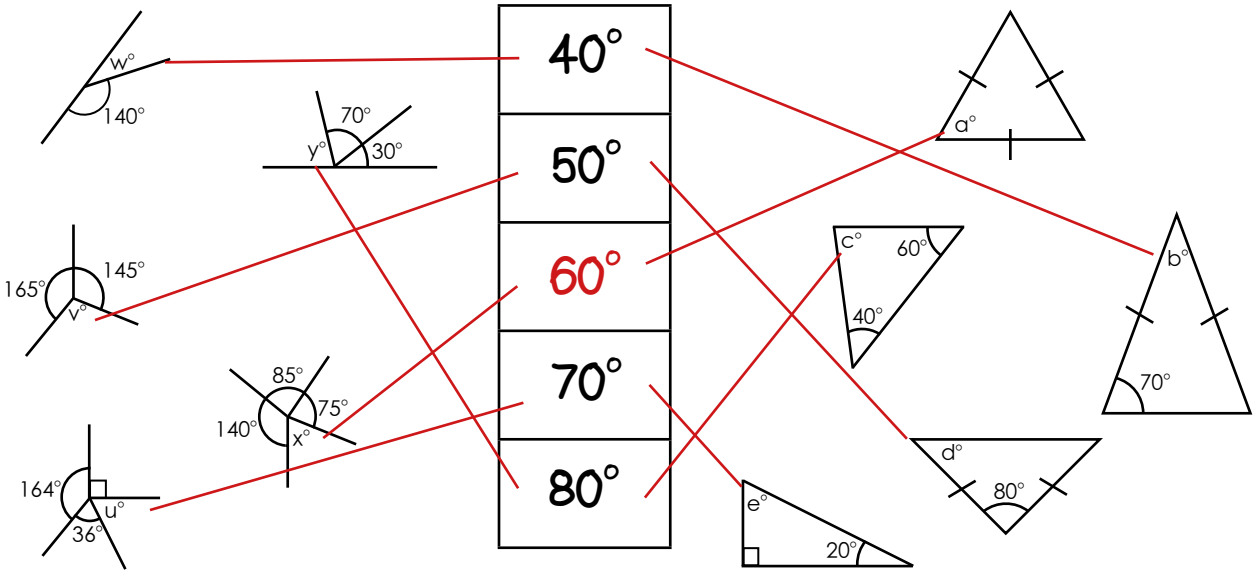
Matching Workout

Workout H

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

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

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



Create your own Matching Workouts.