



Colin and Coco's Daily Maths Workout

Workout 2.7

Answers

Properties of Shapes

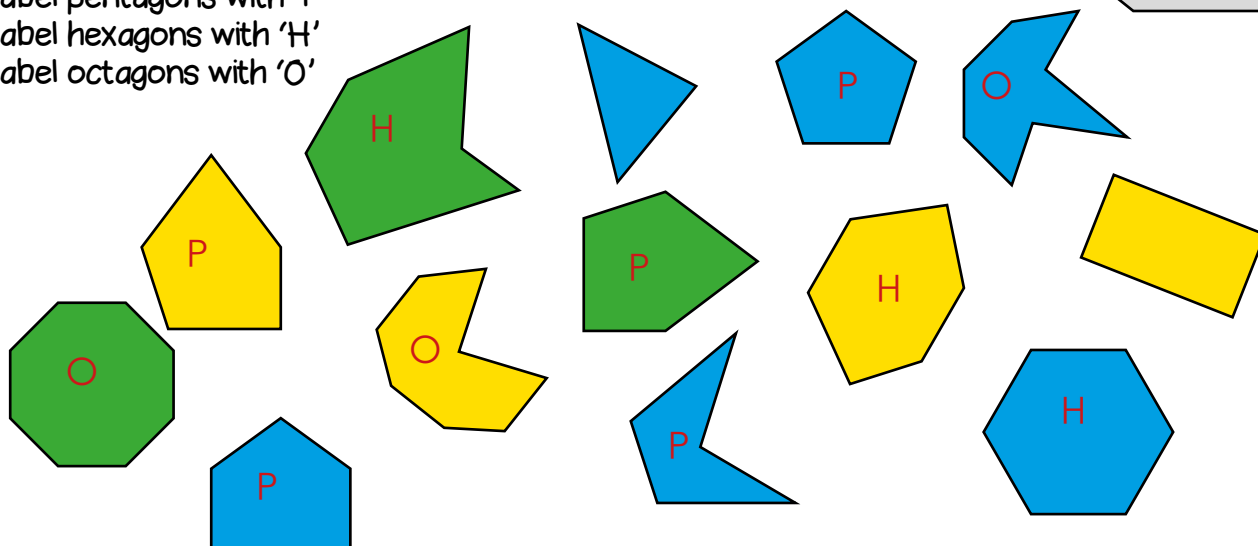




Label pentagons with 'P'
Label hexagons with 'H'
Label octagons with 'O'

Shape Workout

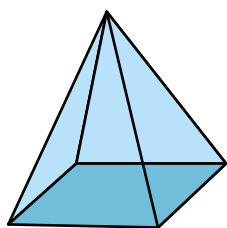
Workout A



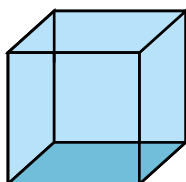
Shape Workout

Name the 3D shapes

Workout B



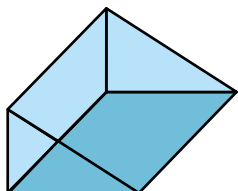
(Square based)
pyramid



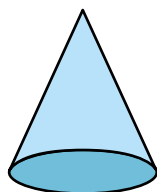
cube



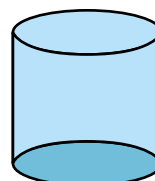
cuboid



triangular prism



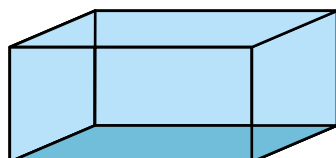
cone



cylinder

Shape Workout

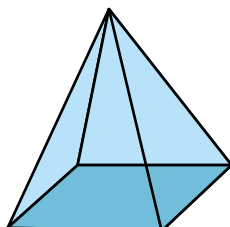
Workout C



8 Vertices

12 Edges

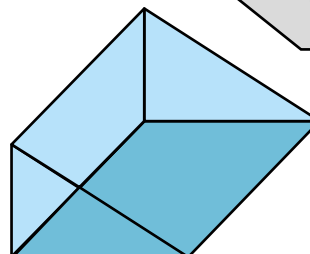
6 Faces



5 Vertices

8 Edges

5 Faces



6 Vertices

9 Edges

5 Faces



Build a Shape Game

Workout D

You need:

Build a Shape Board

1- 6 dice or cards (at the back of this pack.)

To play:

Shuffle the cards and place them face down on the table.

Every time it is your turn you turn over a card (or throw the dice.)

If it is a 1,2 or 3 you get a square face for your shape.

If it is a 4 or 5 you get a triangle.

If it is a 6 you can choose either.

You are aiming to make a cube and a pyramid with a square base.

I have thrown a 4 so get a triangle
face for my pyramid.

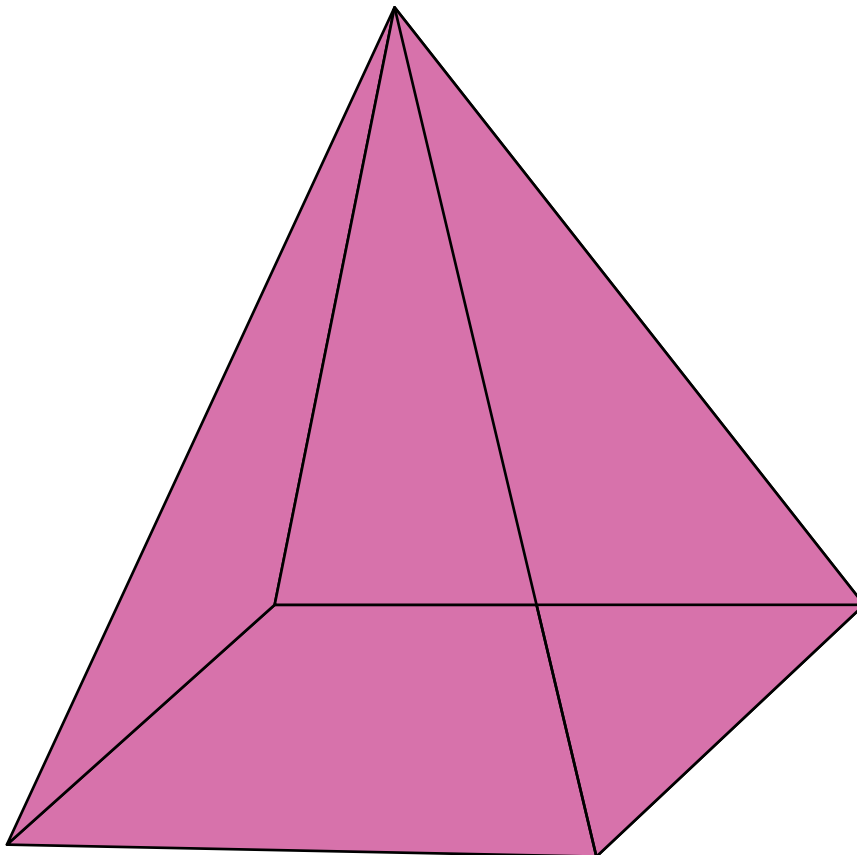
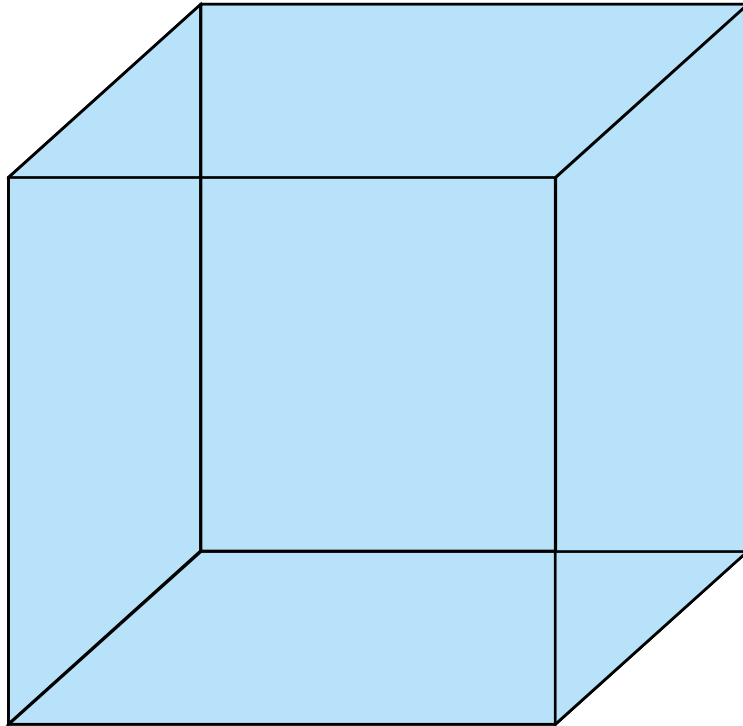
I have thrown a 2 so get a square face for my cube.
I need 2 more square faces to complete my cube.

To win:

The winner is the first player to build both their shapes.



Build a Shape Board





Missing Number Workout

Workout E

Colin is playing with different types of 2-D shapes.
Place digits in the empty boxes to complete the statements
in several different ways.

Possible
Solution

$$1 \text{ Square} + \boxed{4} \text{ Triangles} = 1 \boxed{6} \text{ Sides}$$

$$\boxed{5} \text{ Triangles} = \boxed{1} \boxed{5} \text{ Corners}$$

$$1 \text{ Octagon} + \boxed{3} \text{ Squares} = \boxed{2} \boxed{0} \text{ Vertices}$$

$$1 \text{ Octagon} + \boxed{2} \text{ Pentagons} = \boxed{1} \boxed{8} \text{ Sides}$$

$$1 \text{ Pentagon} + \boxed{2} \text{ Hexagons} = \boxed{1} \boxed{7} \text{ Sides}$$

Now complete all the statements together
using the digits 1, 2, 3, 4, 5, 6, 7 and 8 at least once each.



Sticks Challenge

Workout F

Colin finds some straight sticks.

They are two different lengths - long sticks and short sticks!

He uses three of them as the sides of a shape.

Sketch the shapes he might have made.

Triangles with:

3 short sides

3 long sides

2 long, 1 short

2 short, 1 long

What if he used five of them to make a shape? He uses one stick for each side.

Sketch some of the shapes he might make now.

Pentagons - possible solutions:

e.g. 5 short

4 short, 1 long,

5 long,

Colin makes some shapes using 3 long and 3 short sticks every time.

Sketch his shapes.



Word Problems

Workout G

Colin has a bag of cards with shapes on them.

1. He pulls out 3 pentagons.

15 sides

How many sides can he count in total?

2. He pulls out 2 octagons.

16 sides

How many sides can he count altogether?

3. He pulls out 1 hexagon and 2 squares.

14 sides

How many sides can he count in total?

4. He pulls out a mixture of triangles and squares. He counts 10 vertices. How many of each shape has he pulled out? 1 square, 2 triangles

5. He pulls out a mixture of triangles and pentagons. He counts 19 sides. How many of each shape has he pulled out? 2 pentagons 3 triangles

6. He pulls out some shapes and thinks there are triangles. He counts 16 sides in total. Explain why the shapes cannot be triangles. 3 sides on each triangle, you do not say 16 if you count in 3s

7. Coco likes to go on a Shape Treasure Hunt.

If Coco visited your house, where would she find ...

Shape	Where in your house?
Circle	
Triangle	
Rectangle	
Pentagon	
Hexagon	
Octagon	



Who am I? Workout

Workout H

Use the clues to work out Colin's mystery number.

You may want to cross numbers out on the 100 grid as you consider each clue.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

- 1) I am odd
- 2) I am less than 60
- 3) I have two digits
- 4) I am more than 20
- 5) I am not in the 10 times table
- 6) One of my digits is even
- 7) The sum of my digits is more than 8
- 8) The difference between my digits is less than 6
- 9) I am in not the 5 times table
- 10) If you count in 3s from zero you will say me

Colin's mystery number is

27

Create your own 'Who am I?' puzzle

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Please share your puzzle with Colin @MathsCanDo