



Colin and Coco's Daily Maths Workout

Workout 4.7

Answers

Properties of Shapes

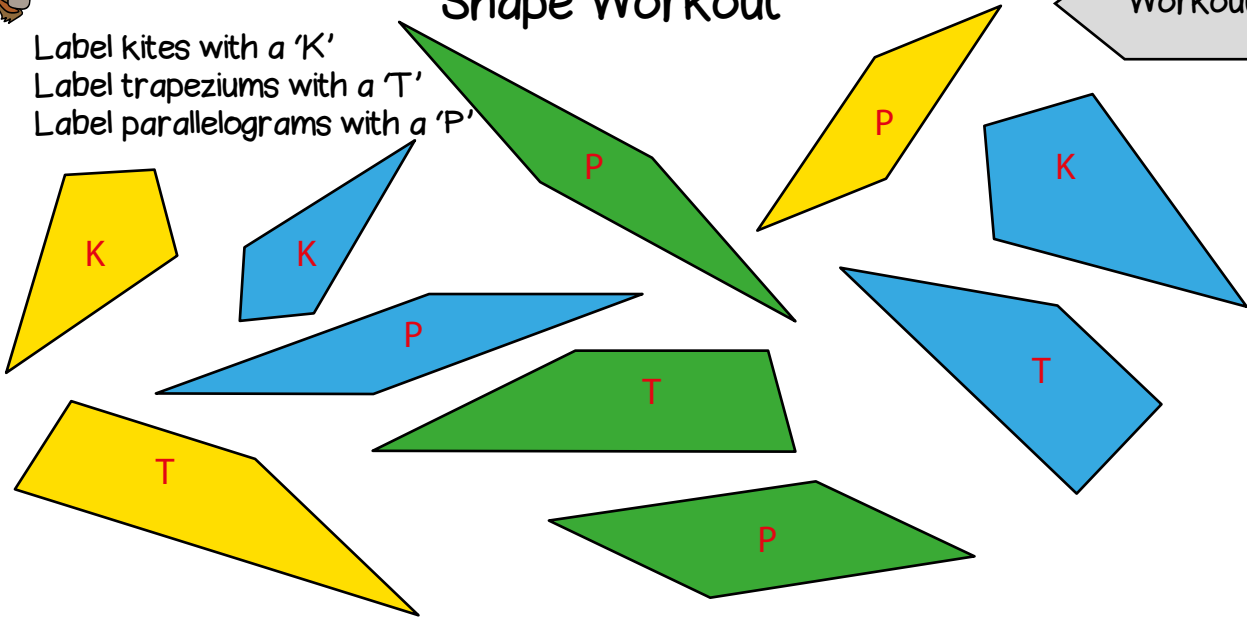




Shape Workout

Workout A

Label kites with a 'K'
Label trapeziums with a 'T'
Label parallelograms with a 'P'



Sketch more kites, trapeziums and parallelograms of your own.

Shape Workout

Workout B

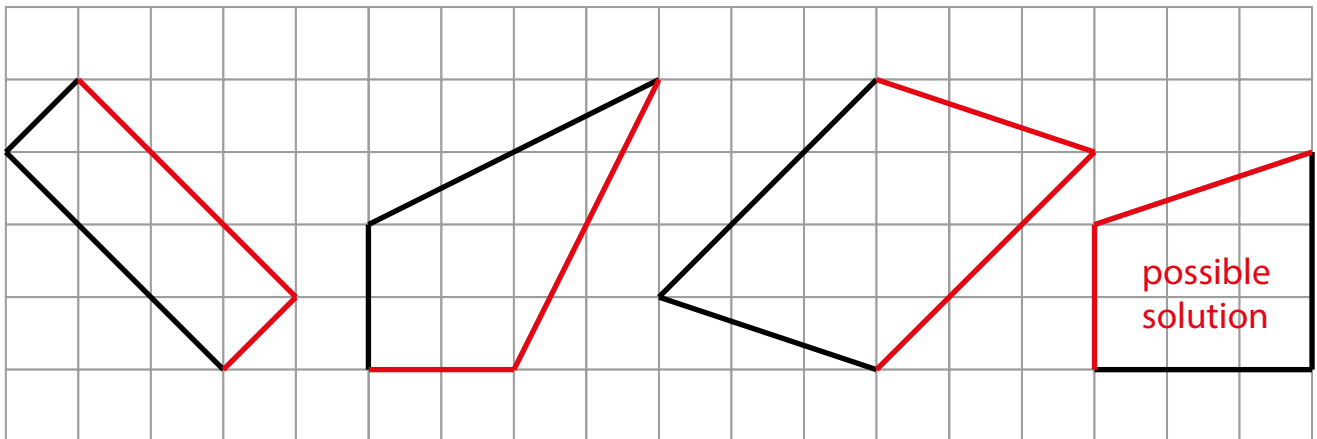
Join corners of the squares in the grid to complete the shapes.

rectangle

kite

parallelogram

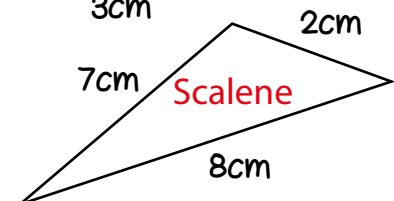
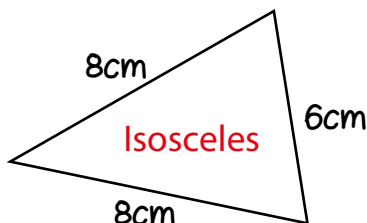
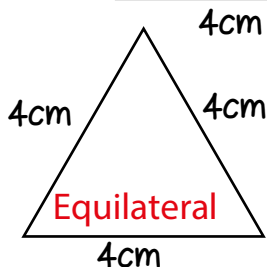
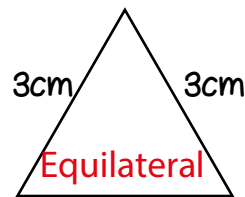
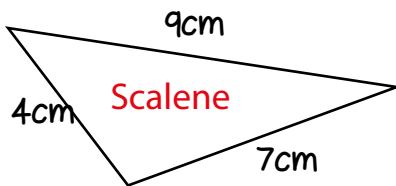
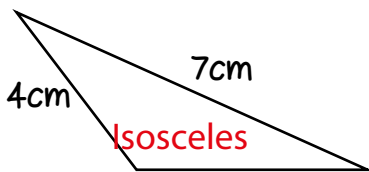
trapezium



Shape Workout

Workout C

Are the triangles scalene, isosceles or equilateral?
They are not drawn to scale.





Sketch a Shape (2) Game

Workout D

You need:

Properties of shapes cards (on the next page.)

To play:

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

Start your turn by turning over a card.

Sketch a shape that has the property on the card.

Now turn over another card.

Sketch a shape that has both the properties of both cards.

Now turn over another card.

Sketch a shape that has all three properties of the cards.

Continue until you can not sketch a shape. You score the number of cards that you completed.

My card says 'at least one pair of parallel sides.'
I have drawn a square.

My second card says 'at least one right angle.'
My square still works.

My third card says 'no equal sides'
I have drawn a trapezium with a right angle.

My third card says 'three straight sides' so I can not
sketch a shape to match all my cards. I score 3

For example:

If you cannot sketch a shape with the 2 properties you score 1 and it is the next player's turn.

If you cannot sketch a shape with the 3 properties you score 2 and it is the next player's turn.

To win:

The winner is the first player to accumulate a score of 10



Properties of Shapes (2) Cards

3 straight sides

4 straight sides

more than 4
straight sides

no equal sides

at least 2 equal
sides

no right angles

at least one right
angle

no lines of
symmetry

at least one line of
symmetry

no parallel sides

at least one pair
of parallel sides

at least one
obtuse angle



Missing Number Workout

Workout E

Colin is playing with different types of polygons.
Place digits in the empty boxes to complete the statements
in several different ways.

Possible
Solution

Name of 2-D Shape

Rectangle

4

Right angles

Parallelogram

2

Pairs of parallel sides

Equilateral
Triangle

3

Equal sides

Pentagon

5

Sides

Isosceles
Triangle

1

Line of symmetry

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

Now complete all the statements together
using the digits 1, 2, 3, 4 and 5 once each.



Tangram Shapes

Using the pieces from the Tangram make the following shapes.
Add up the points of the pieces you use each time.

Squares

Triangles

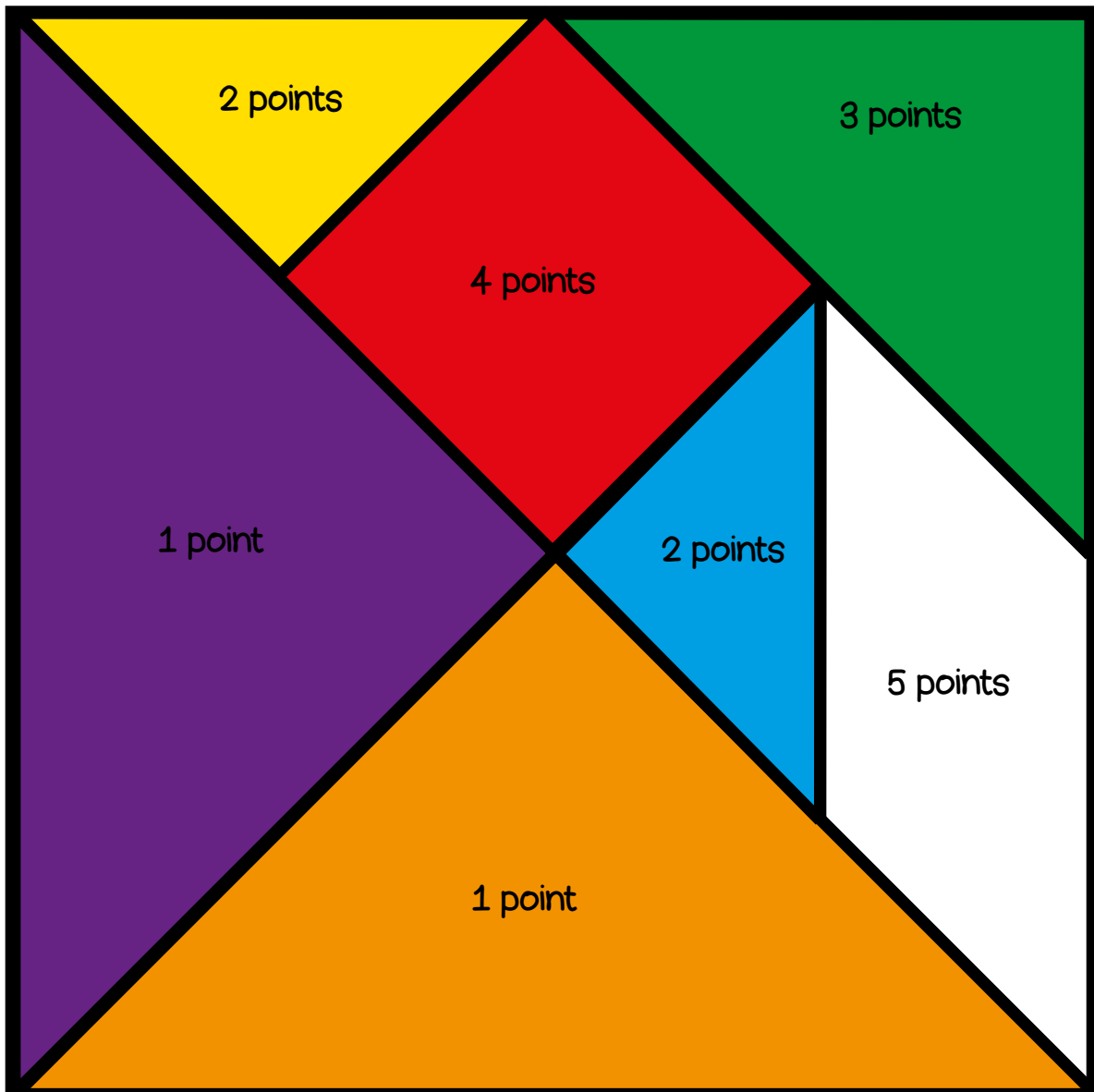
See next page for solutions

Parallelograms

Trapeziums

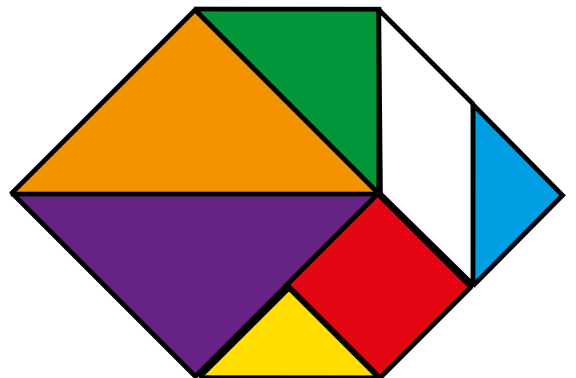
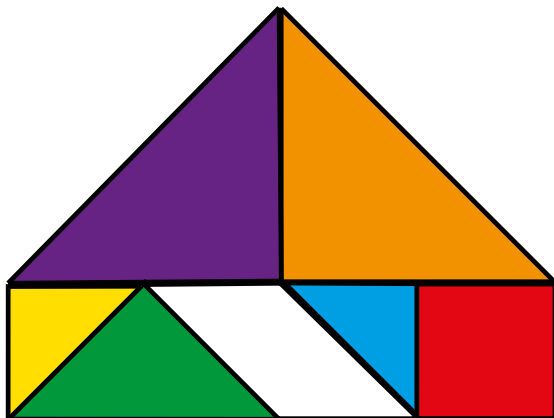
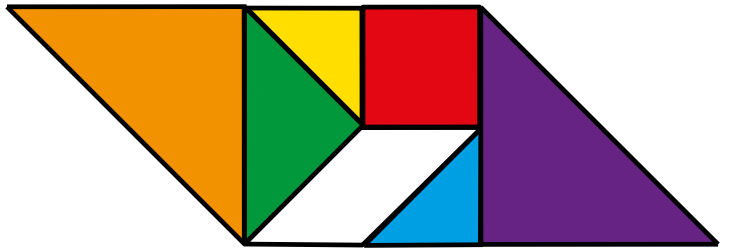
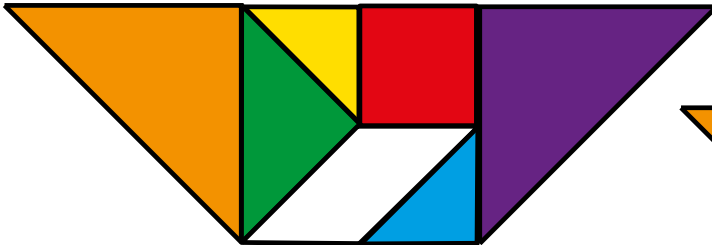
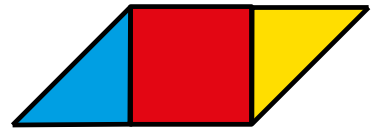
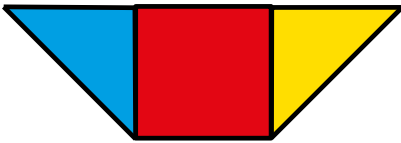
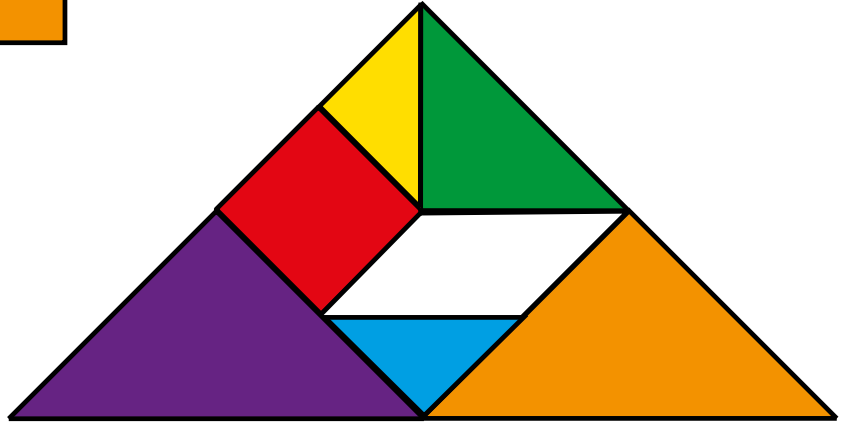
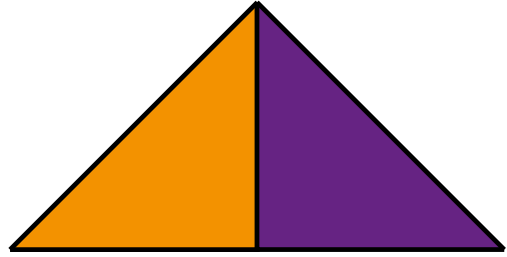
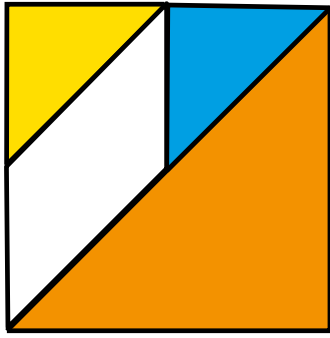
Investigate the different scores you can get for each shape.

Can you use all 7 pieces to make a pentagon and a hexagon?





Some possible Solutions





Word Problems

Workout G

Colin has a bag of cards with quadrilaterals and triangles on them.

1. He pulls out 3 parallelograms and 2 scalene triangles.

How many sides can he count in total? 18

2. He pulls out 1 rhombus, 1 kite and 3 equilateral triangles.

How many sides can he count altogether? 17

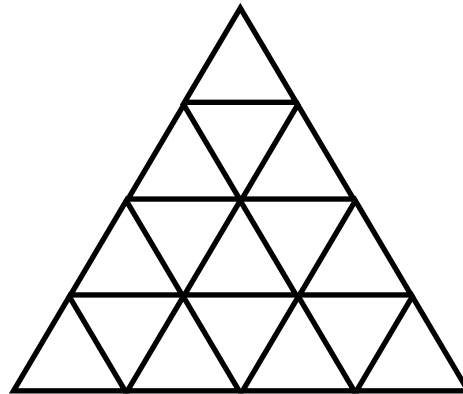
4. He pulls out a mixture of triangles and trapeziums.

He counts 18 vertices. 3 trapeziums, 2 triangles

How many of each shape has he pulled out?

5. How many triangles are in the diagram?

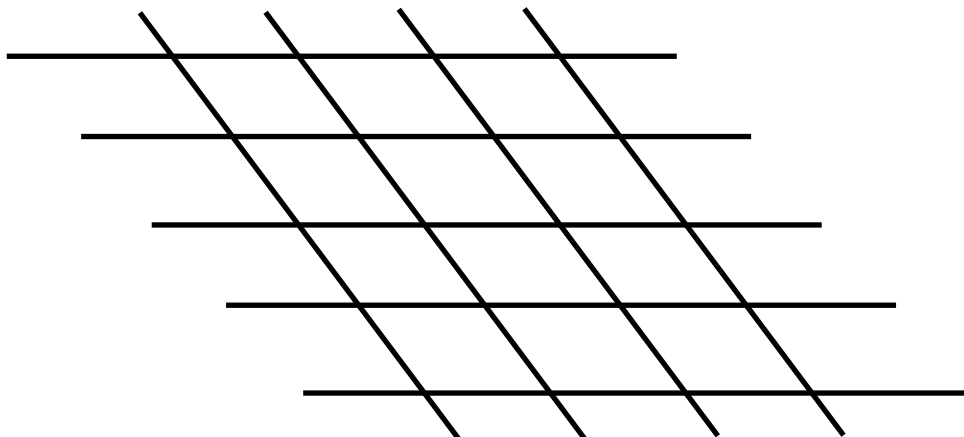
25



What other shapes can you see? e.g. rhombus, trapezium, parallelogram

6. How many parallelograms are in the diagram?

60





Who am I? Workout

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 not a multiple of 9
- 2) I am not a multiple of 5
- 3) I am a 2-digit number
- 4) My tens digit is less than my ones digit
- 5) The sum of my digits is even
- 6) I am not a multiple of 6
- 7) The difference in my digits is greater than 2
- 8) If you write me using words, I don't need three 'E's
- 9) The product of my digits is even
- 10) I am one more than a multiple of 3

Colin's mystery number is 28

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