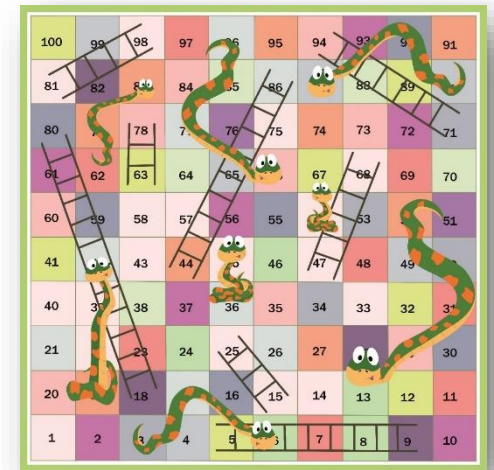
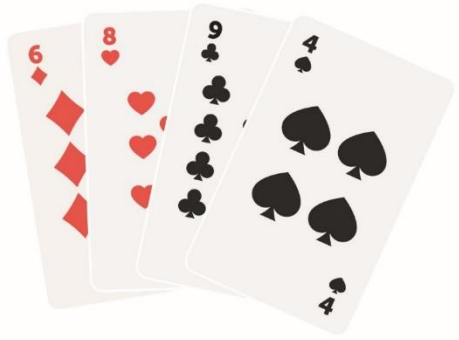


Maths Everywhere Games and Activities





Car Conundrums



On a walk, collect sixteen number plates.

BG63 KYT

BF51 TAU



Find someone to play against.

Each player chooses a number plate from the list collected and create two numbers with one decimal place each.

Using the number plates above, you could make 6.3 and 3.6, 5.1 and 1.5.

Each player then finds the difference between the smallest and largest numbers: $5.1 - 1.5 = 3.6$ and $6.3 - 3.6 = 2.7$. This means that 3.6 wins as it is the biggest difference and gets 1 point. If the answers are both the same in a round then 0.5 of a point is added.

The player with the most points after ten rounds is the winner.

L983 WGH

Play the game again and use registration plates with three digits and use the digits to make numbers with two decimal places. For example, 9.83 and 3.89, and 6.17 and 7.16.

M617 VMC

When you are subtracting decimals to find the biggest difference you might need to use place value to regroup to tenths into ones





Envelopes

Use a variety of envelopes that come through your letterbox.



Estimate both the area and perimeter of each envelope to the nearest centimetre by writing on the back. Measure them accurately using a ruler or draw 1cm squares to see how close your estimate was to the actual perimeter and area.

Put two envelopes together without overlapping them to make a rectilinear shape. Estimate the perimeter of the shape and then measure it to find the actual perimeter.

Rearrange the envelopes to make the largest and smallest perimeter. Will the area of each combined (compound or composite) shape that you have made be the same or different? Why?

Perimeter – the distance around the outside of a 2D shape.

Area – the space the envelope(s) cover which here can be measured in square mm/cm (²)





Dicey Addition



You will need a partner to play this game with.

Each player rolls a dice six times and uses the numbers rolled as digits to make two, 3 digit numbers. The aim is to get closer to a sum of 1000 than the other player. The player with the closest sum wins a point.

With six dice, what are the lowest highest totals you can make by adding two, 3 digit numbers?

Now roll the dice eight times and create two, 4 digit numbers.

How close to 10,000 can you get?

Repeat the process to get as close as you can. With eight dice, what are the lowest and highest totals that you can make by adding two 4 digit numbers?

*Remember to use the most efficient method when you are adding.
564 added to 321 could be added mentally and would not need the column method.*



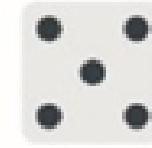
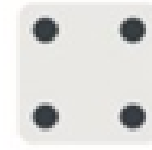


Dicey Difference

Find a partner for the game. Take it in turns to roll a dice twice. Then fill in the missing boxes in the calculations below with the number rolled.

$$600\Box - 599\Box =$$

This could become $6004 - 5995 =$



Count on from the smaller number to the higher number.

For the example above, this might be:

- 5996, 5997, 5998, 5999, 6000, 6001, 6002, 6003, 6004
- or add 5 to get from 5995 to 6000 and then 4 more to get 6004
- or add 5 to each number to keep the **difference equal** to make the calculation 6009-6000

The difference between 6004 and 5995 is 9 so score 9 points.

Keep a running score of the amounts that you have counted on.
The first person to reach 50 wins.





Radical Remainders



Make a 100 square like this and then find someone to play against.
Take it in turns to choose a number and roll the dice.
If your 2-digit number divides exactly by the number on the dice then you win a point.
For example, if your chosen number was 21 and the number on the dice was 3 then you would get a point because 21 divides by 3 exactly 7 times.



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

Cross off any numbers used as you go because they are now out of the game.

The first player to ten points wins.

Look at numbers used in the game. Which numbers would only divide exactly by one and themselves? (prime numbers)

Play again but this time keep a running total of remainders. The winner now being the first to get to 50.





Time is on your side



Use the television listings from a newspaper, magazine, tv planner or internet and create a timetable of your favourite programmes to watch during the seven days in the week. Show the times of the programmes in different formats.

Day	12 hour	24 hour	Duration	Programme
Example	4.00pm- 5.30pm	16.00- 17.30	90 mins 1 hr 30 min	Merlin
Monday				
Tuesday				
Wednesday				



Remember to work in multiples of sixty when calculating the duration of events.



Quadrilateral Quandary

Prepare several circles by drawing around a plate or something circular.

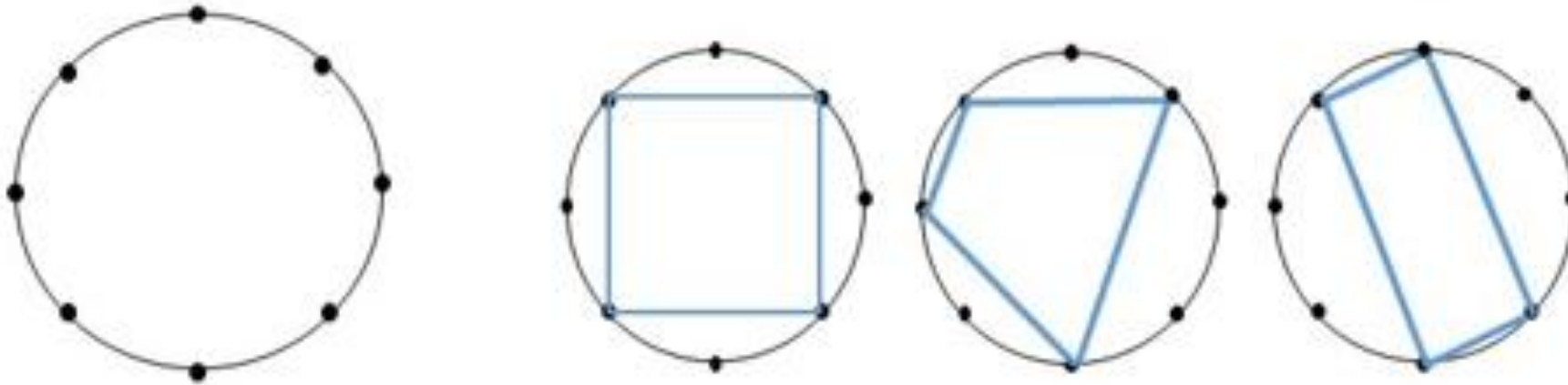
Use a ruler or a straight edge to draw the dots in the positions shown on the diagram below

How many different quadrilaterals can be made, including the same quadrilateral in a different position by joining the dots on the circle?

Name each quadrilateral and write two facts about each one.

Estimate the angles of all your quadrilaterals and measure to check if you have a protractor.

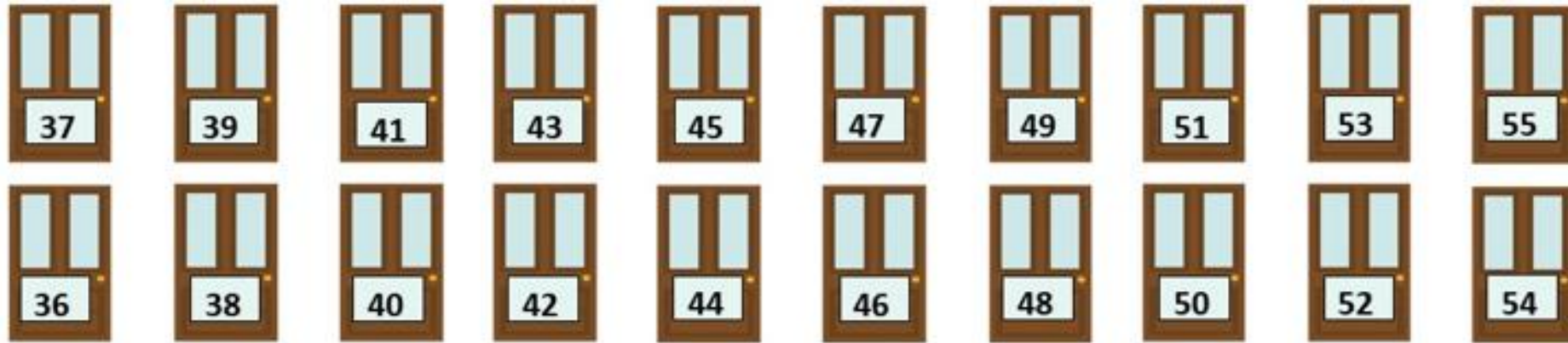
Could you do the same activity drawing triangles inside the dotted circles or other polygons.



Quadrilaterals – 2D shapes with four straight sides (see examples above).

Polygons – 2D shapes with at least three straight sides (and no curved sides).

Up Your Street



Choose ten odd house numbers and ten even house numbers in your street or use the doors above. Play with a partner.

One person chooses an odd and one even number, multiplies them together and crosses them out. Check with each other and score a point if the answer is correct. After they have all been used, change the door start number and rewrite the others. Make sure that the door numbers are two-digit and below 100. Play the game again and keep a running total of the score.

Remember to use the most efficient method. If, for example, you were multiplying 50×51 you could do it mentally and not use a column method.

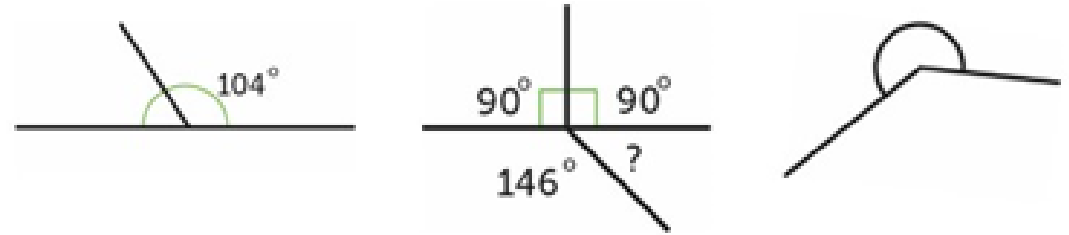




Amazing Angles



Look both inside and outside of your homes. How many different angles can you identify? Identify obtuse, acute, reflex, right angles, angles in a straight line, at different points and in turns up to 360° .



Create drawings and label them showing as many elements of the above as you can. You could use a protractor to both measure and create angles or estimate.

- Acute angles – less than 90°*
- Right angles – 90° exactly*
- Obtuse angles – greater than 90° but less than 180°*
- Straight lines – 180° exactly*
- Reflex angles – greater than 180°*
- A full turn around a point - 360°*



Watery Estimation



Collect different cups, glasses, containers and bottles. Most bottles have their capacity (how much they will hold) written on them. For example, 1 litre, 750ml, 500ml, 250ml etc.

Have a look to identify the capacity of each bottle. Select a small cup or container. Estimate how many different cups or containers you would have to use to fill a range of bottles. How close was your estimate to the actual amount?

Use what you know to find the capacity of each container. For example, if it took about four cups to fill a 1litre bottle then the cup hold about 250ml.

Estimate and try out how many different size bottles/containers it would take to fill a bowl, a kettle, a bucket or a bath.