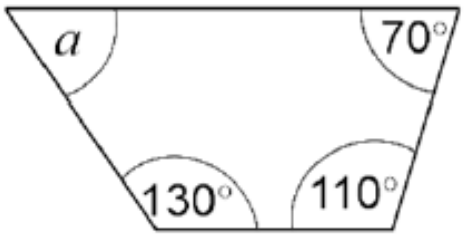
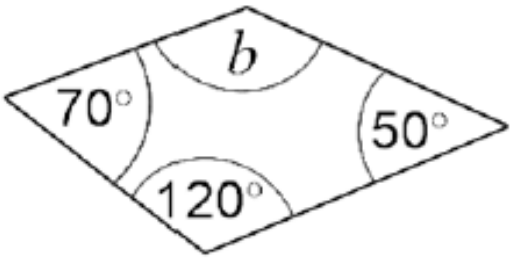
Monday 27th April - Mild

Calculate the missing angles in these quadrilaterals (no protractor)



1)



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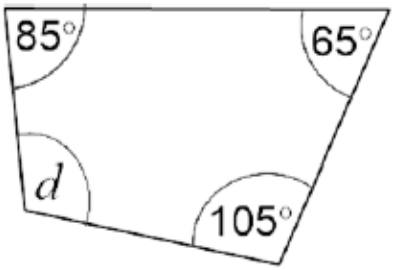

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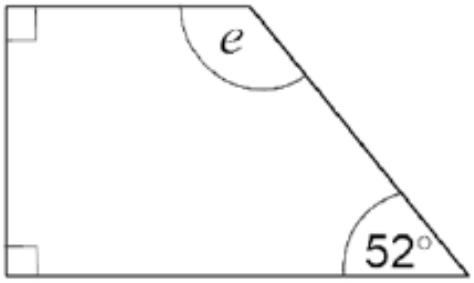
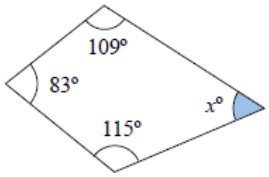


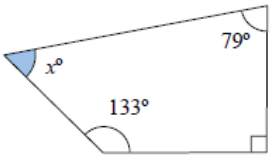
4)

Spicy – calculate the missing angles in these quadrilaterals (no protractor)

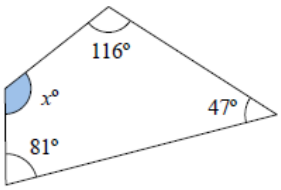
A1 Work out the value of x



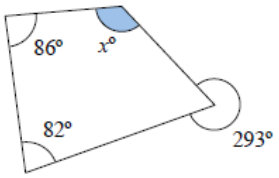
A2 Work out the value of x



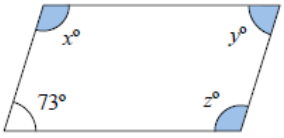
A3 Work out the value of x



A4 Work out the value of x

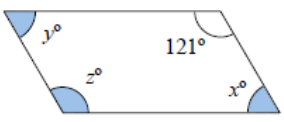


B1 This is a parallelogram.



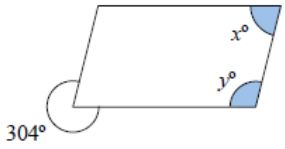
Work out the values of x, y and z

B2 This is a parallelogram.



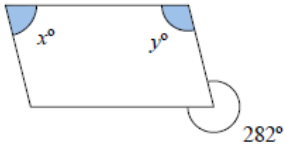
Work out the values of x, y and z

B3 This is a parallelogram.



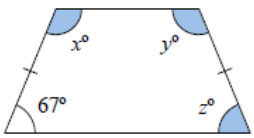
Work out the values of x and y

B4 This is a parallelogram.



Work out the values of x and y

C1 This is an isosceles trapezium.

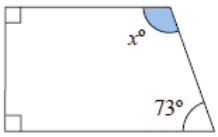


Work out the values of x, y and z

C2 This is an isosceles trapezium.

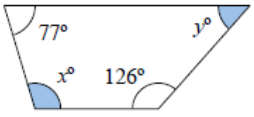
Work out the values of x and y

C3 This is a trapezium.



Work out the value of x

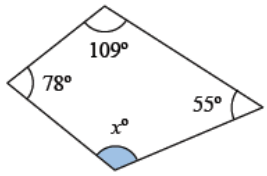
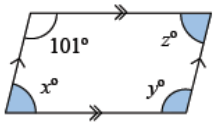
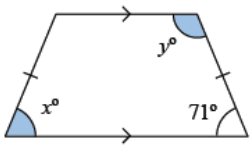
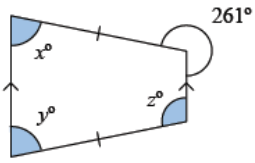
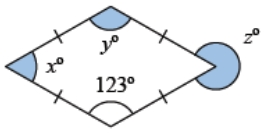
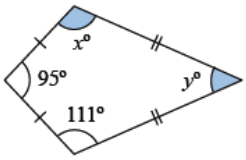
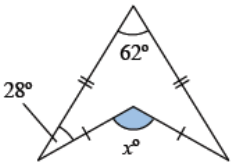
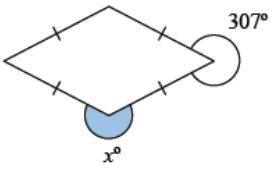
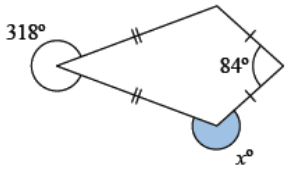
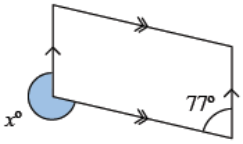
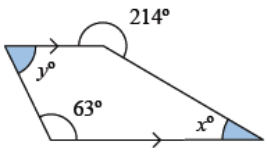
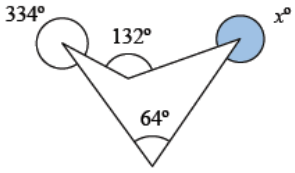
C4 This is a trapezium.



Work out the values of x and y

Monday 27th April - Hot –

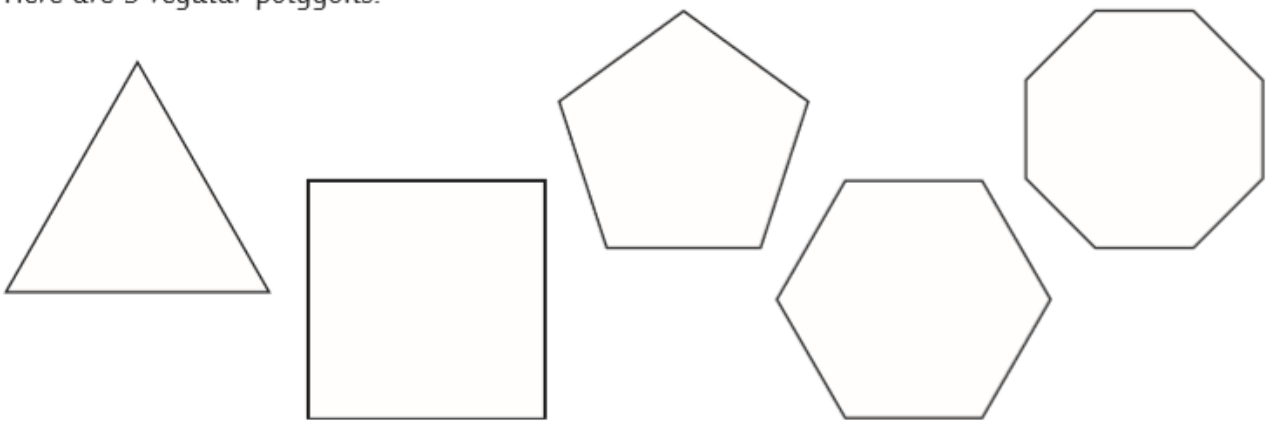
Calculate the missing angles in these quadrilaterals (Do not use a protractor)

A1 This quadrilateral is irregular  Work out the value of x	**A2** This is a parallelogram.  Work out the values of x, y and z	**A3** This is an isosceles trapezium.  Work out the values of x and y	**A4** This is an isosceles trapezium.  Work out the values of x, y and z
B1 This is a rhombus.  Work out the values of x, y and z	**B2** This is a kite.  Work out the values of x and y	**B3** This is an arrowhead (delta).  Work out the value of x	**B4** This is a rhombus.  Work out the value of x
C1 This is a kite.  Work out the value of x	**C2** This is a parallelogram.  Work out the value of x	**C3** This is a trapezium.  Work out the values of x and y	**C4** This quadrilateral is irregular.  Work out the value of x

Tuesday 28th April – Mild

The Interior Angles of Regular Polygons

Here are 5 regular polygons.



Measure each angle and complete the table below.

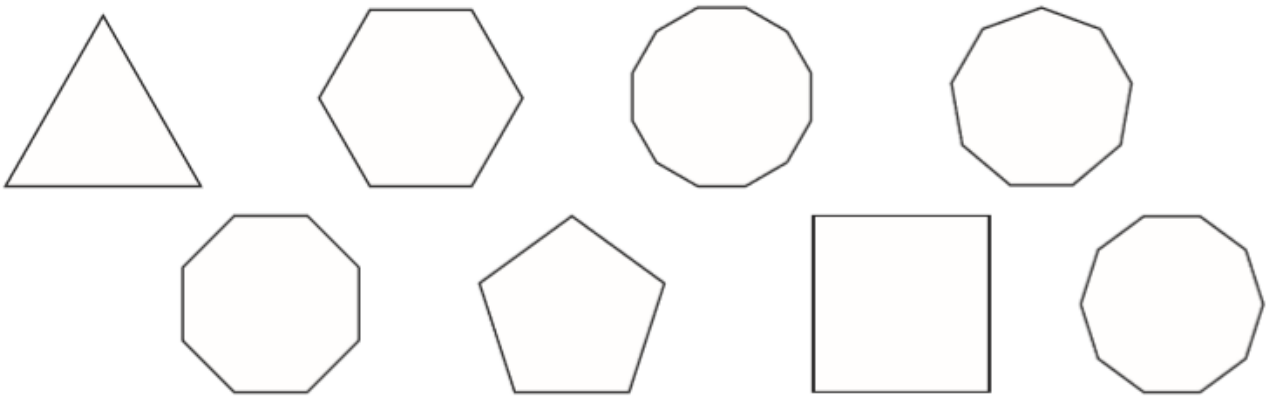
Shape	Number of Angles	Interior Angle	Total of All Interior Angles
equilateral triangle			
square			
regular pentagon			
regular hexagon			
regular octagon			

In the space below, draw an equilateral triangle and a square.

Tuesday 28th April – Spicy

The Interior Angles of Regular Polygons

Here are 8 regular polygons.



Record the name of each shape, the number of angles, the size of the interior angle and the total of the interior angles of each shape on the grid below.

Shape	Number of Angles	Interior Angle	Total of All Interior Angles
e.g. equilateral triangle	3	60°	180°

Describe any patterns you can see.

Tuesday 28th April - Hot –

The Interior Angles of Regular Polygons

A square could be drawn by drawing a line, turning 90°, drawing a second line of the same length, turning 90°, repeating this until you have drawn a square. You will make a final 90° turn to face the direction in which you started.

How many turns of 90° would you make? _____

What is the total turn? _____

What angle would you turn to draw an equilateral triangle? _____

What would be the total turn for an equilateral triangle? _____

How could you use the turn each time to find the interior angle of each regular polygon?

_____

How would you calculate the interior angle from the angle of turn?

_____

Use your answers to the above questions to find the turn for each regular polygon, and therefore the interior angle. Record your results in the table below.

Shape	Number of Angles	Angle of Turn	Interior Angle	Total of All Interior Angles
e.g. equilateral triangle	3	120°	60°	180°

Write a formula for the turn needed for any polygon with n number of sides.

_____

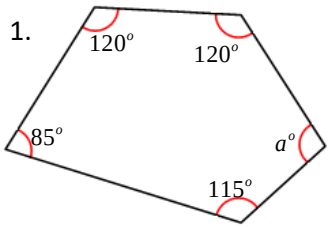
What is the interior angle for regular polygons with 15, 20, 30, 60 and 100 sides?

_____

Tuesday 28th April - Extra Hot - Angles in Polygons

Find the missing angles within these polygons

1.



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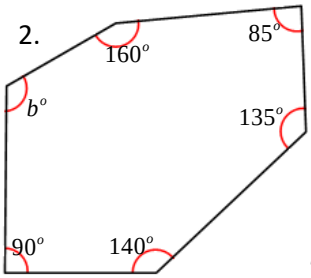

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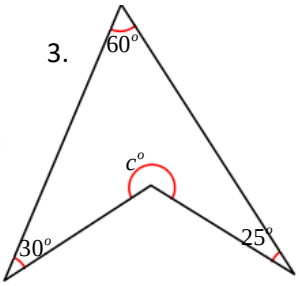
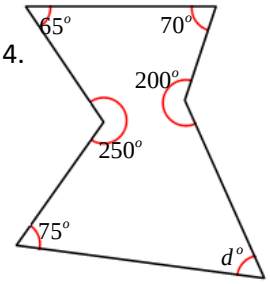


4.



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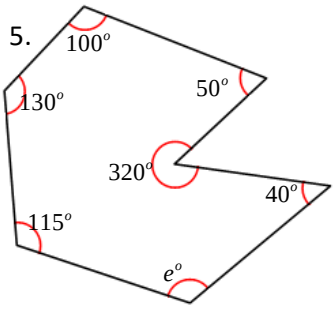

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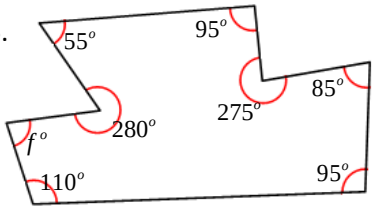

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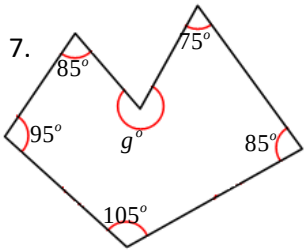

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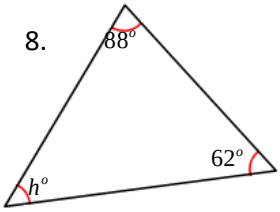

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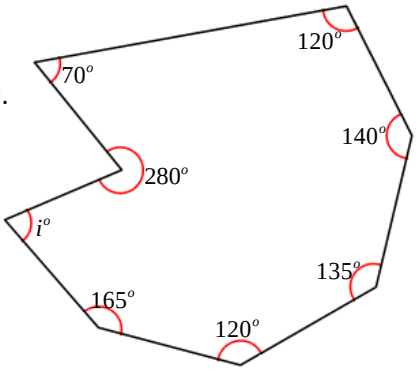
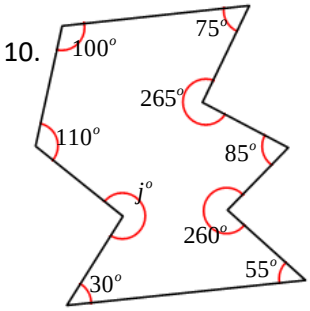


10.



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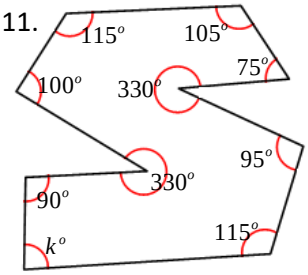
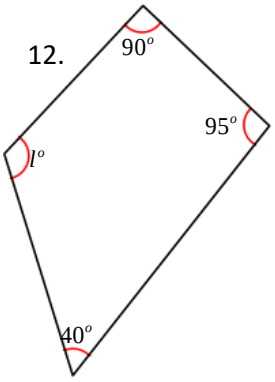
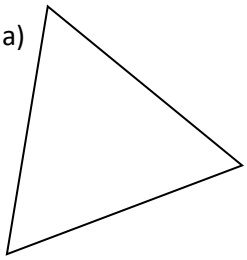


12.

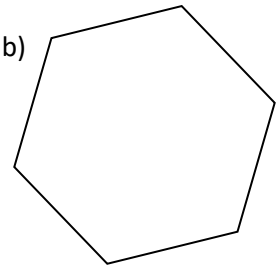


13. These shapes are all regular polygons. Find the size of the interior angle in each.

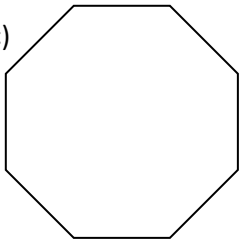
a)



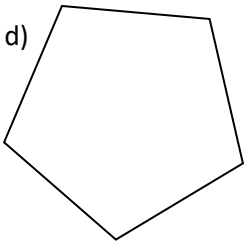
b)



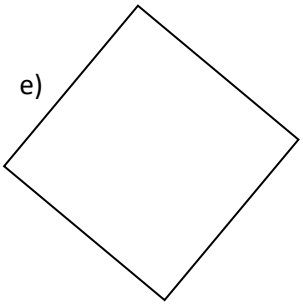
c)



d)



e)



14. Which regular polygons have

a) a total sum of 1800°

b) a total sum of 2700°

c) interior angles of 150°

d) interior angles of 156°

15. Consider an n-sided regular polygon

a) What is the total of all the angles in this shape

b) What is the size of one of its interior angles