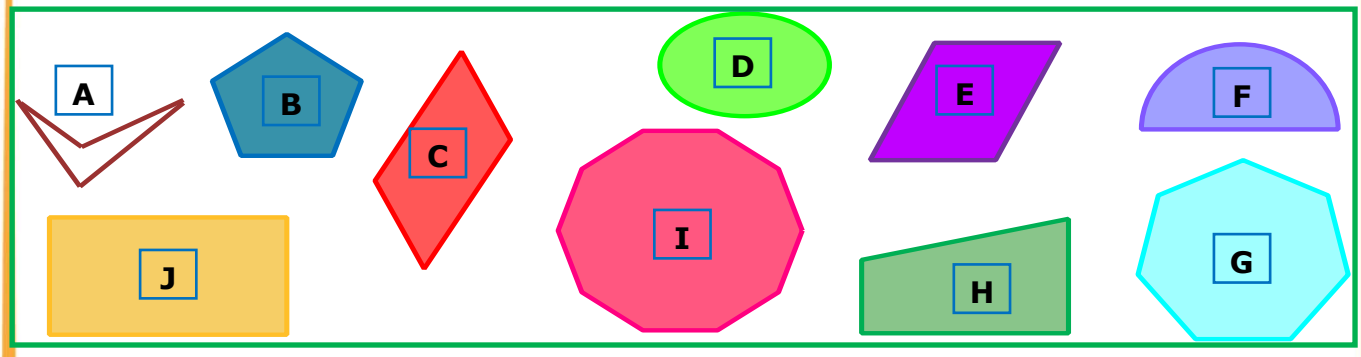
2D Shapes

Look at the 2D shapes in the block below and answer the questions which follow:



Identify each of the shapes in the block above:

A - _____ B - _____ C - _____

D - _____ E - _____ F - _____

G - _____ H - _____ I - _____

J - _____

Which of the above shapes can be classified as quadrilaterals? Give 3 reasons for your answer.

_____

_____

_____

Compare the similarities and differences between shapes; C, E, J and H, referring specifically to the sides and angles of the shapes.

Shape	**Similarities** Sides	Angles	**Differences** Sides	Angles
C, E, J, H				

2D Shapes

Shape D can form the base of which two 3D-Shapes?

_____

Complete the table below by listing the no. of vertices and lines of symmetry of each of the shapes listed:

Shape	No. of Vertices	No. of lines of Symmetry
A		
B		
I		
G		
H		

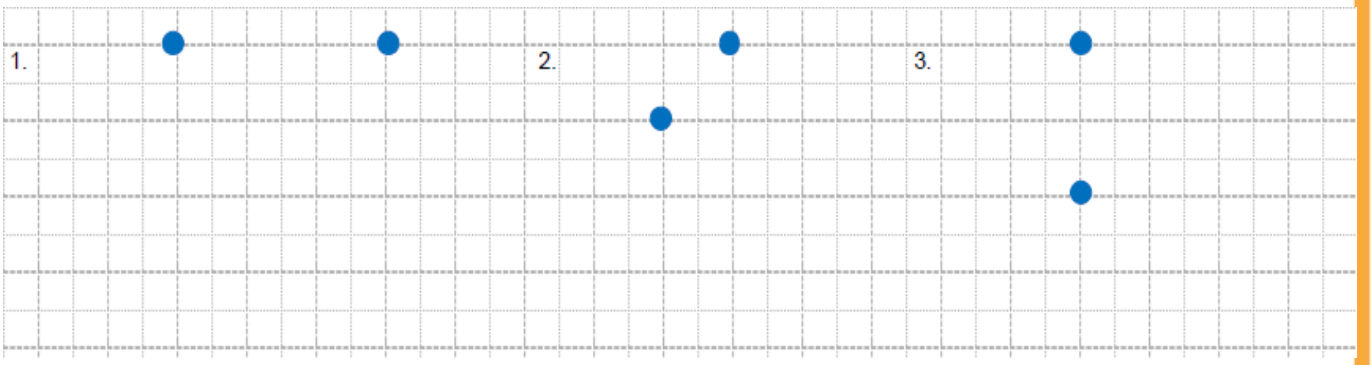
If one more edge is added to shape B, which polygon will it then be?

_____

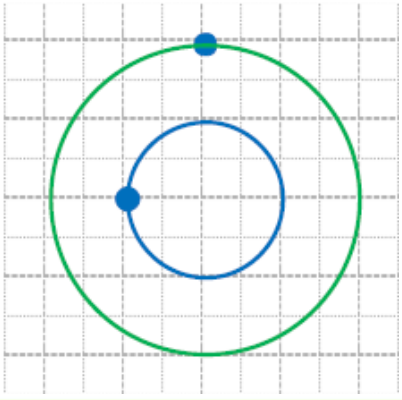
Using the gridline paper below, draw the following 2D-Shapes:

1. Parallelogram 2. Octagon 3. Trapezium

First connect the two dots for each shape and then complete the shape.

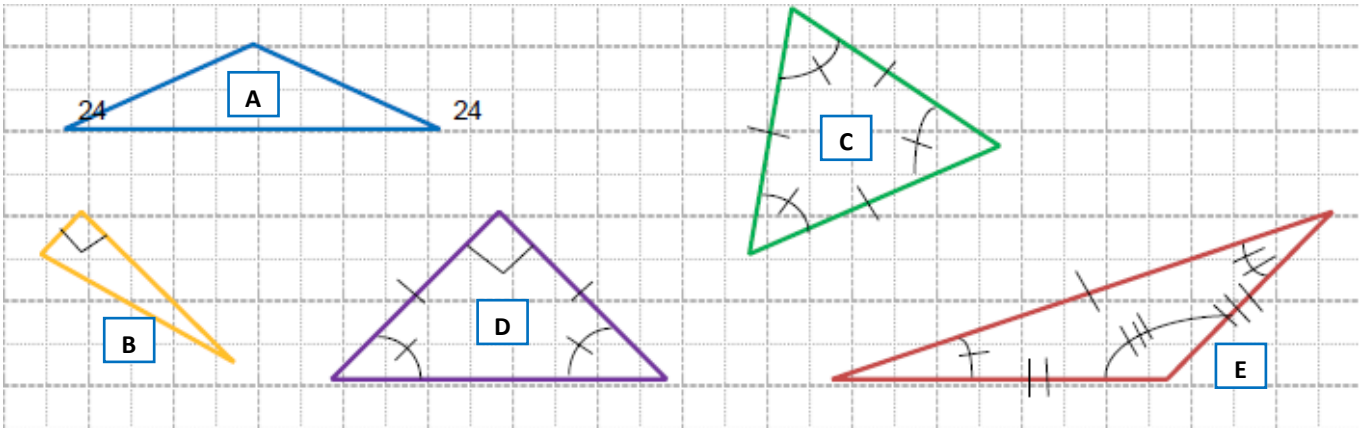


Draw a diameter for the smaller circle and a radius for the bigger circle, starting from the marked points:



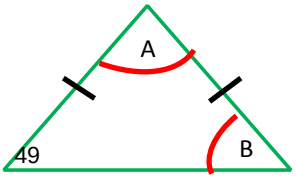
Triangles

Classify the following triangles according to their properties and angles:



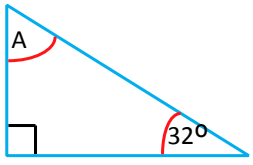
Triangle	Type of Triangle	Classification according to angles	Description
A			
B			
C			
D			
E			

Calculate the size of the angles in each of the following:

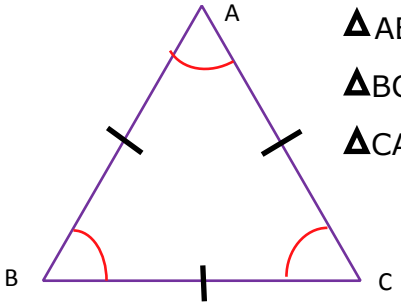
1. 

A: _____

B: _____

2. 

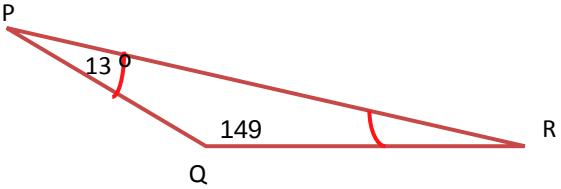
A: _____

3. 

ΔABC = _____

ΔBCA = _____

ΔCAB = _____

4. 

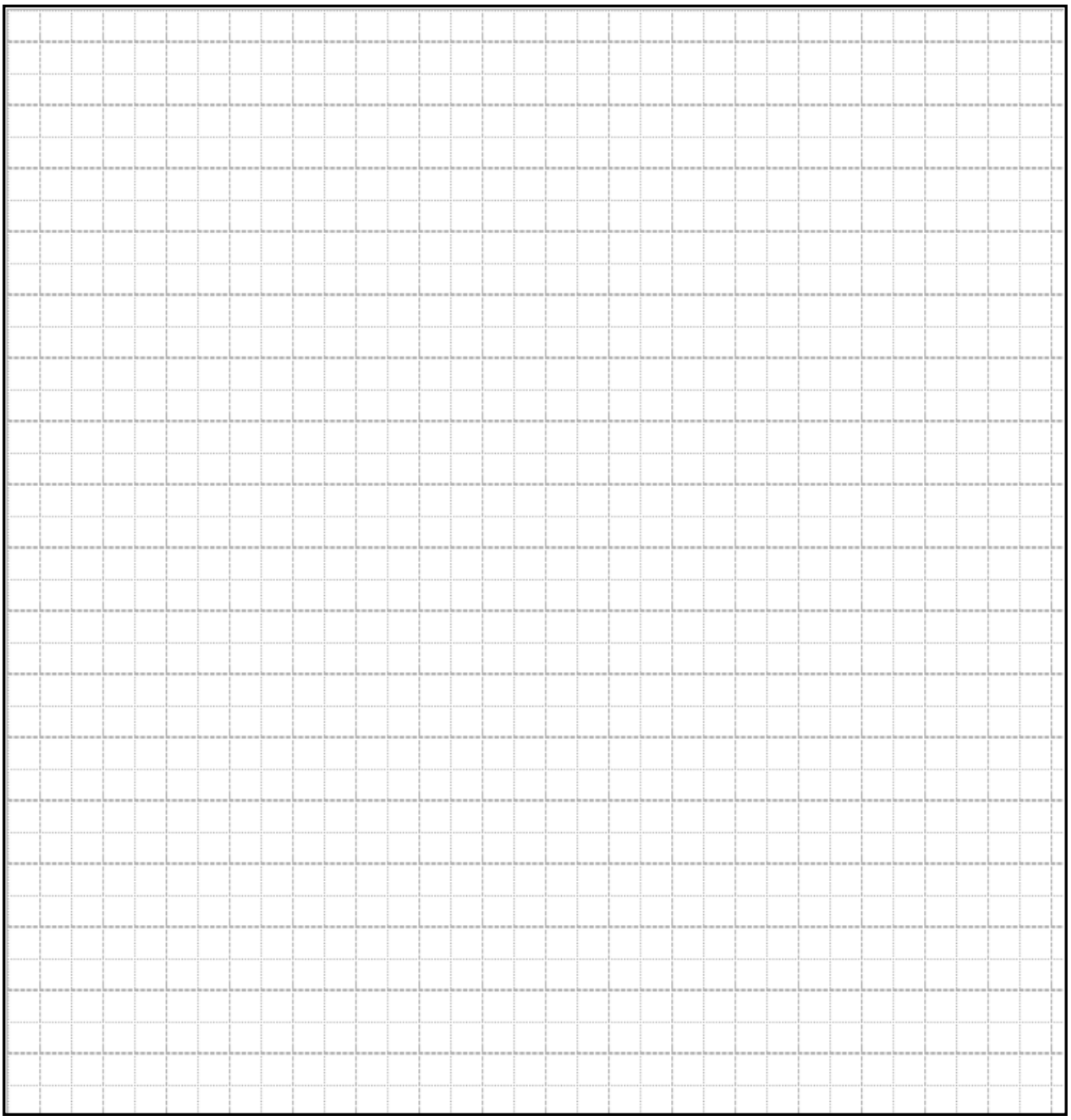
ΔPRQ = _____

_____

Triangles

Practise drawing the following triangles on the gridline below:

1. Isosceles, Obtuse triangle
2. Equilateral, Acute triangle
3. Scalene, Right-angled triangle
4. Isosceles, Right-angled triangle



2D-Shapes—Memo

Look at the 2D shapes in the block below and answer the questions which follow:

Identify each of the shapes in the block above:

A - Irregular quadrilateral
B - Pentagon
C - Parallelogram
D - Ellipse
E - Rhombus
F - Half circle or sphere
G - Heptagon
H - Trapezium
I - Decagon
J - Rectangle

Which of the above shapes can be classified as quadrilaterals? Give 3 reasons for your answer.

A, C, E, H, J—all these shapes have 4 sides, all of these shapes have 4 vertices/corners and the sum of their inner angles is 360 º.

Compare the similarities and differences between shapes; C, E, J and H, referring specifically to the sides and angles of the shapes.

Shape	**Similarities** Sides	Angles	**Differences** Sides	Angles
C, E, J, H	All have 4 sides All have 4 vertices All have at least one pair of parallel sides	All inner angles add up to 360º J and H both have at least 2 right angles	C,E and J have two pairs of equal sides that are also parallel H has no equal sides	C and E have no right angles

Shape D can form the base of which two 3D-Shapes?

A cone or a cylinder

Complete the table below by filling the no. of vertices and lines of symmetry of each of the shapes listed:

Shape	**No. of Vertices**	**No. of lines of Symmetry**
A	4	0
B	5	5
I	10	10
G	7	7
H	4	0

2D-Shapes—Memo

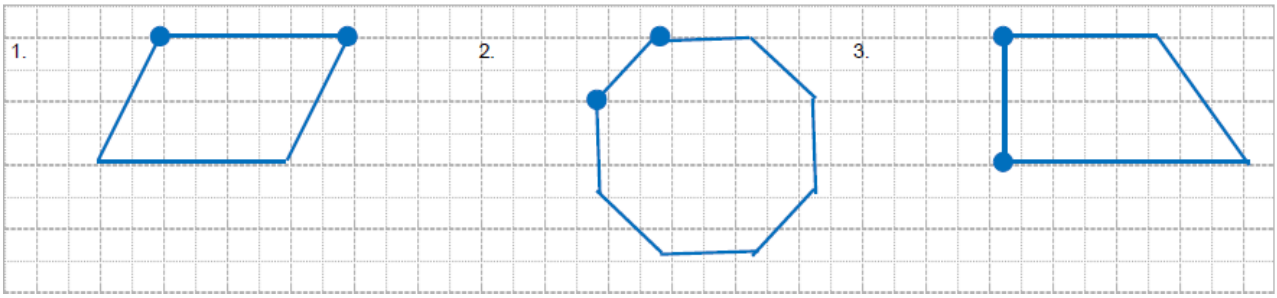
If one more face is added to shape B, which polygon will it then be?

Hexagon

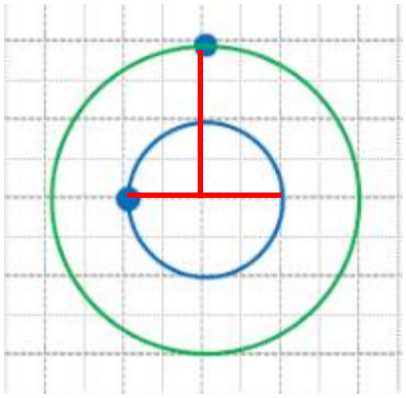
Using the grid below, draw the following 2D-Shapes:

1. Parallelogram 2. Octagon 3. Trapezium

Your drawing for each shape, must include the marked points on the grid.



Draw a diameter for the smaller circle and a radius for the bigger circle, starting from the marked points:



Triangles—Memo

Classify the following triangles according to their properties and angles:
Calculate the size of the angles in each of the following:

Triangle	Type of Triangle	Classification according to angles	Description
A	Isosceles	Obtuse	Two equal sides and equal angles, one angle bigger than 90º (180 - 24 - 24)
B	Scalene	Right-angled	No sides or angles equal, one right angle
C	Equilateral	Acute	All sides and angles equal
D	Isosceles	Right-angled	Two equal sides and equal angles, one right angle
E	Scalene	Obtuse	No sides or angles equal, one obtuse angle

1. A: 180º - (49 + 49)
   = 180º - 98º
   = 82º
   B: 49º

2. A: 180º - (90 + 32)
   = 180º - 122º
   = 58º

3. A: ABC = 60º
   BCA = 60º
   CAB = 60º

4. QRP = 180º - (149 + 13)
   = 180º - 162º
   = 18º