

Date: _____

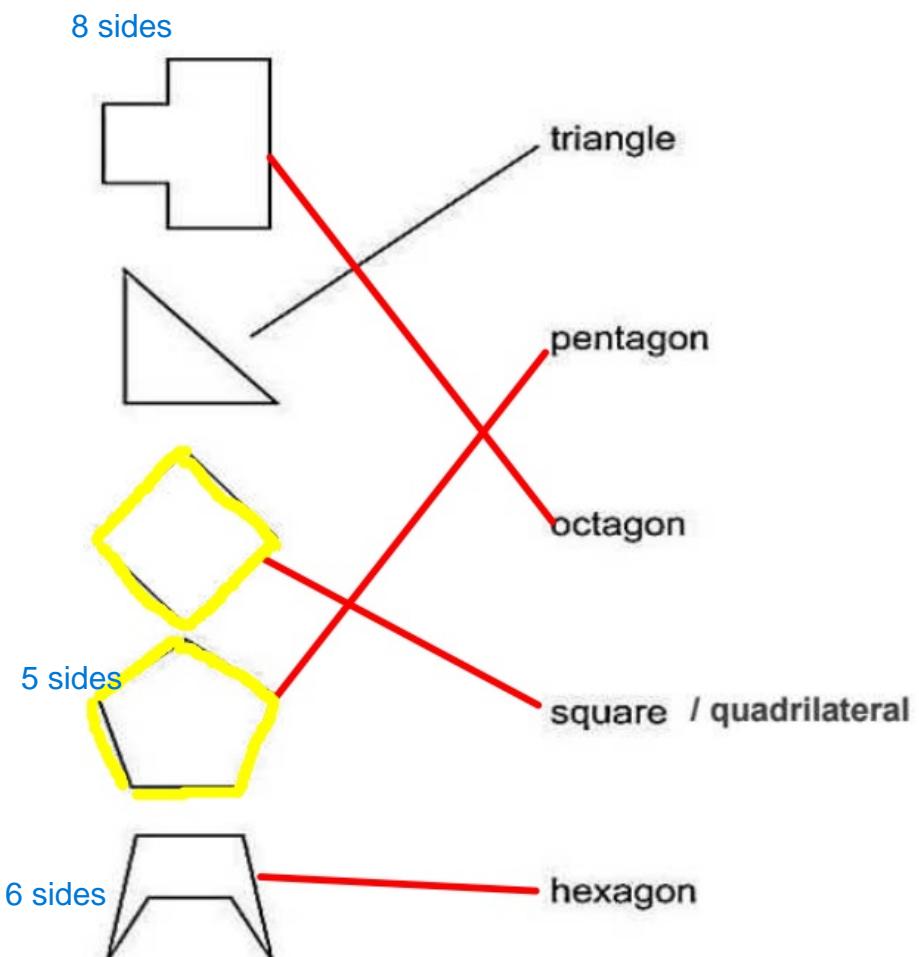
Chapter 5 : 2D and 3D shapes (5.A.1)

Q1. Look at the following 2D shapes.

all sides and angles are equal

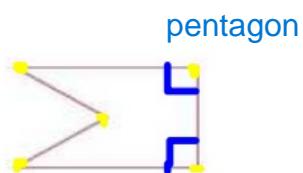
- Trace the regular polygons.
- Draw a line to join each shape to its name.

One has been done for you.



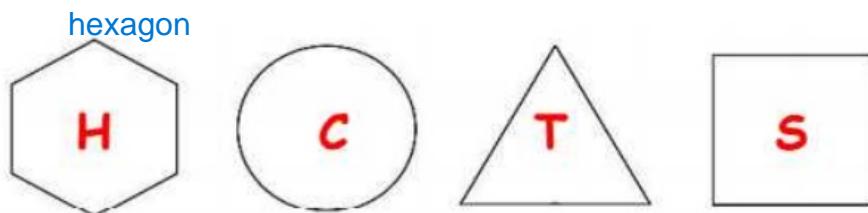
Q2. Here is a 2D shape. Complete the statements.

It has 5 vertices, 2 right angles and 5 sides.



5 angles (2 of them are right angles)

Q3. Here are some shapes.



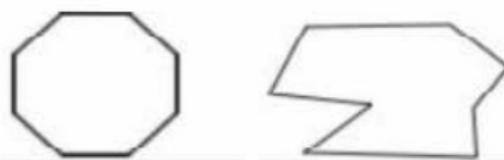
Answer the following questions. Write the letter of the shape.

- Which shape is not a polygon? C (curved)
- Which polygon has less than 4 sides? T
- Which shape has 4 vertices? S
- Which shape has more than 4 angles? H

Q4. Compare the shapes. Write ONE difference and ONE similarity.

regular polygon

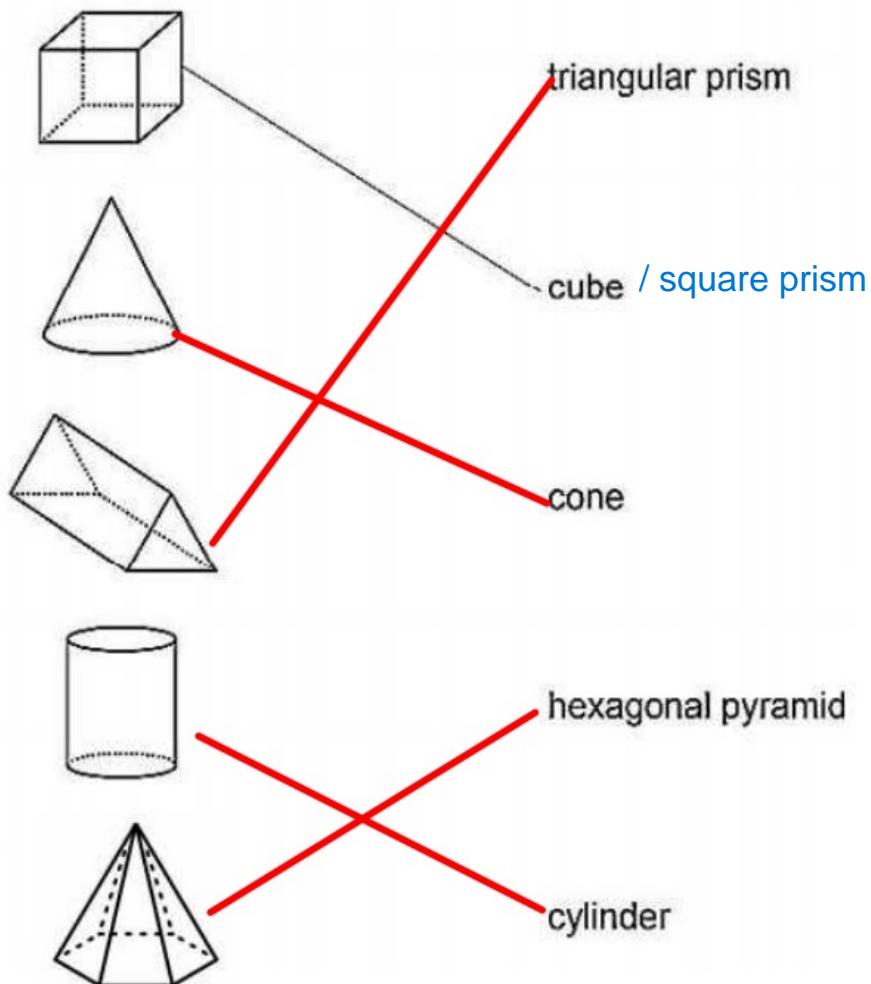
irregular polygon



difference : shape, length of sides, size of angles

similarity : both are polygons, both are octagons

Q5. Draw a line to join each 3D shape to the correct name.

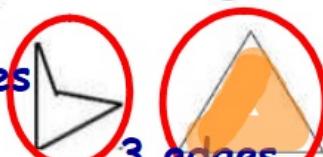


Q6. Look at the polygons below.

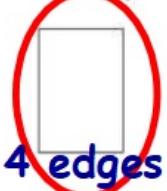
a) Draw a ring around each polygon that has four vertices or less.

4 edges

4 vertices

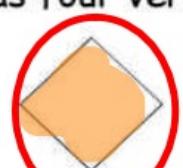


3 edges

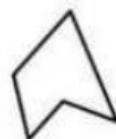


4 edges

b) Colour the regular polygons.



4 edges
4 vertices



Q7. Here are three diagrams of solid shapes.

Choose the correct word from the list to complete each sentence.

faces

edges

prisms

pyramids

vertices

6 vertcies

8 vertices

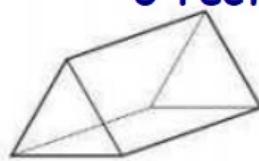
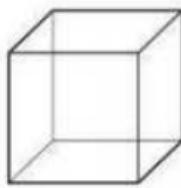
6 vertices

6 faces (1 pentagonal
and 5 triangular faces)

6 square faces
 $4+2=6$ faces

5 faces (2 triangular
3 rectangular faces)

$5+1=6$ faces



pentagonal pyramid

cube

triangular prism

A and B both have the same number of **faces**.

A and C both have the same number of **vertices**.

B and C are both **prisms**.

Q8. Here are the names of four 2D shapes.

8 sides

octagon

3 sides

triangle

6 sides

hexagon

5 sides

pentagon

Write the shapes in order according to the number of sides.

Start with the smallest number of sides.

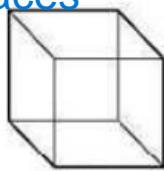
triangle pentagon hexagon octagon

smallest number
of sides

Q9. These pictures show four 3D shapes.

$$4+2=6 \text{ faces}$$

12 edges
6 square faces
8 vertices

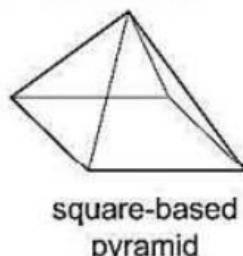


cube



cylinder

5 vertices



square-based pyramid

12 edges
6 rectangular faces
8 vertices



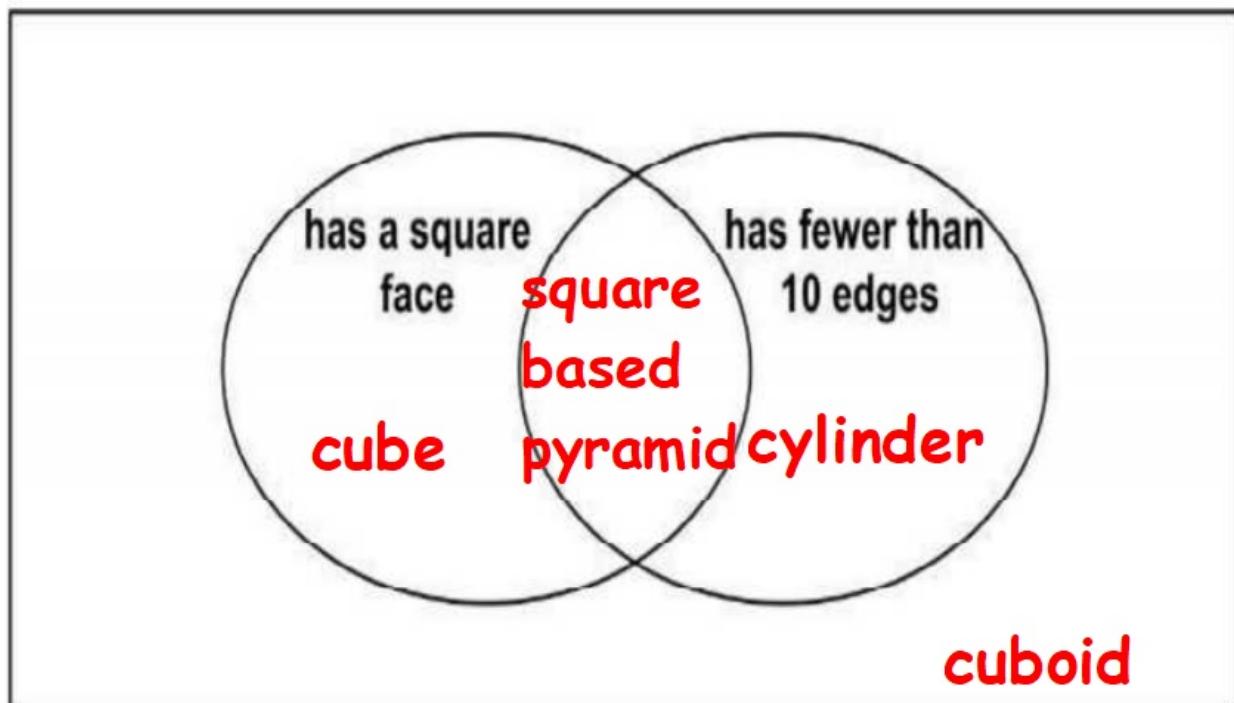
cuboid

$$4+2=6 \text{ faces}$$

Complete the Venn diagram by writing the names of these shapes

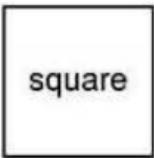
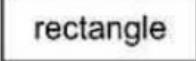
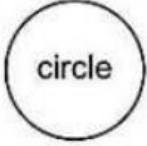
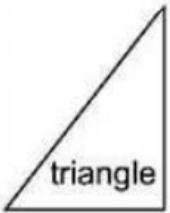
in the correct place.

1 square + 4 triangular faces
so 5 faces altogether
and 8 edges
 $4+1=5 \text{ faces}$



Q10. Some shapes are placed in a sorting diagram.

The four labels are missing.

	D	F
A	 square	 rectangle
E	 circle	 triangle

Write a letter in each empty box on the sorting diagram to show the correct labels.

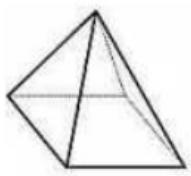
- a) have at least 1 right angle
- b) have exactly 2 lines of symmetry
- c) have at least 4 vertices
- d) regular shapes
- e) have no right angles
- f) irregular shapes
- g) have no lines of symmetry

Q11. These pictures show five 3D shapes.

Write the letter of each shape in the correct place in the table.

One has been done for you.

cylinder

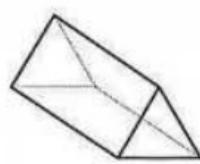


square pyramid

A



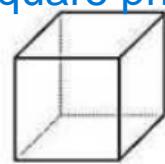
B



triangular prism

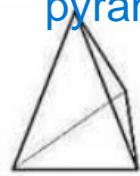
C

cube/
square prism



D

triangular
pyramid

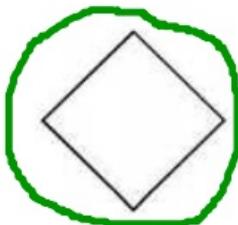


E

Has no triangular faces	Has at least one triangular face
B D	E
	A C

All pyramids and
triangular prisms

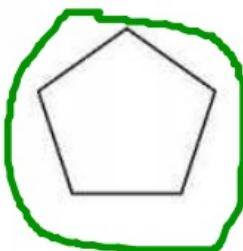
Q12. Draw a ring around each of the regular shapes.



irregular

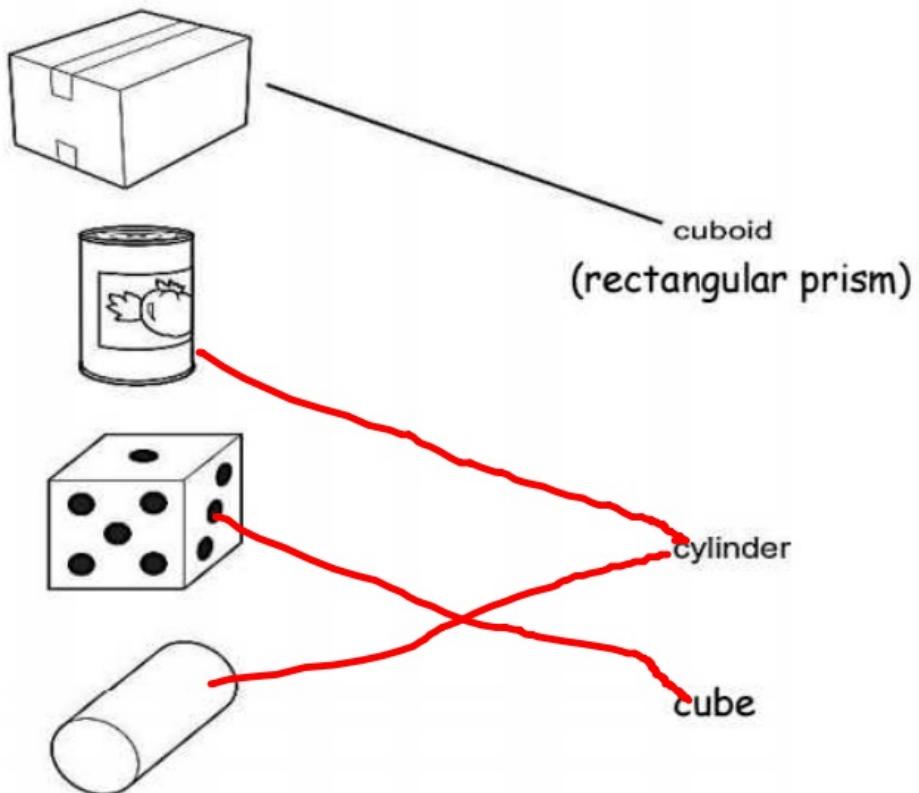


4



How many polygons are there? _____

Q13. Draw a line to join each picture to the correct shape name.



Q14. Katie describes a shape.

- It is a 3D shape.
- It has 6 vertices. **(2 bases --> prism)**
- It has 2 triangular faces and 3 rectangular faces.

What shape is Katie describing?

triangular prism

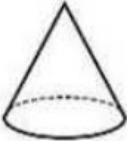
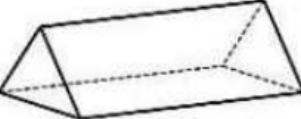
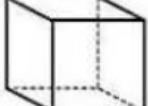
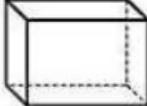
Q15. Five shapes are placed in a Carroll diagram.

The labels of the Carroll diagram are missing.

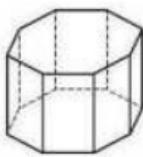
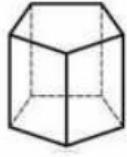
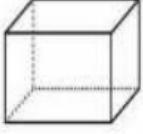
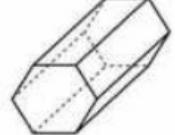
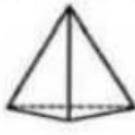
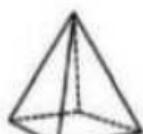
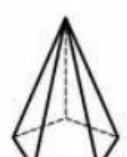
Here are some labels.

- 5 or fewer vertices
- 0 edges
- 5 or fewer faces
- more than 5 faces
- more than 5 vertices
- more than 10 edges

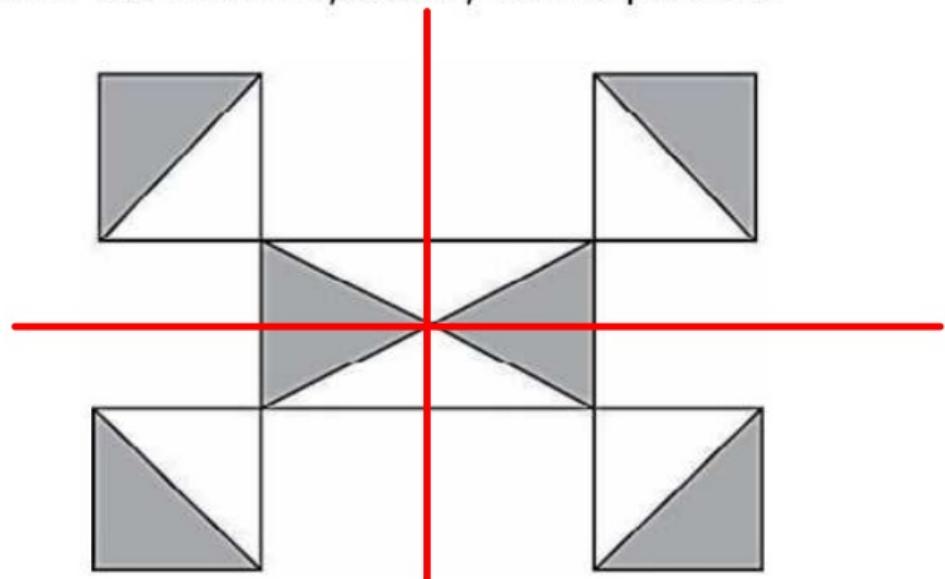
Use four of the labels to complete the Carroll diagram.

5 or fewer faces		more than 5 faces
5 or fewer vertices	cylinder  cone 	
more than 5 vertices	triangular prism 	cube  cuboid 

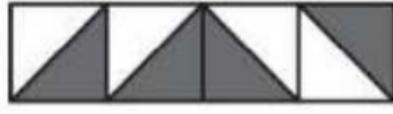
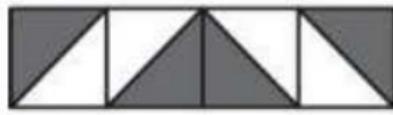
Q16. Fill in the blanks.

	name of 3D shape	number of faces rule	number of faces
	octagonal prism	number of sides of the base + 2 (bases)	<u>10</u>
	<u>pentagonal prism</u>	number of sides of the base + 2 (bases)	7
	<u>cube/ square prism</u>	number of sides of the base + 2 (bases)	<u>6</u>
	hexagonal prism	number of sides of the base + 2 (bases)	<u>8</u>
	triangular pyramid	number of sides of the base + 1 (base)	4
	<u>square pyramid</u>	number of sides of the base + 1 (base)	<u>5</u>
	<u>pentagonal pyramid</u>	number of sides of the base + 1 (base)	6

Q17. Draw all the lines of symmetry on this pattern.



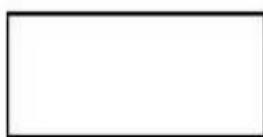
Q18. Tick (✓) all the designs which have at least one line of symmetry.



Q19. Here are five shapes.

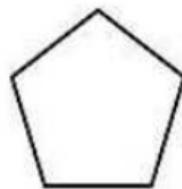
Write the number of lines of symmetry for each shape on the answer line below it.

rectangle



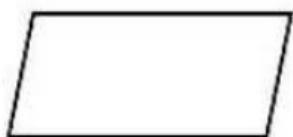
2

regular pentagon



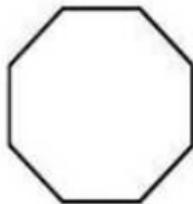
5

parallelogram



0

regular octagon



8

square



4