

SNBP International & Sr. Secondary School, Chikhali, Pune. Affiliation No. 1130703 Academic session 2024-25

Notes-(Term-2) Sub-math

Prepared by -Pranjali Patil

L-12 Nets and Shapes

Pre- activity-Solve let's begin in the textbook.



Ojas, look at the photographs I clicked when we went to the fair last weekend. There are many 3D shapes in this picture. Would you help me name the different shapes we can see?

Sure, Neil. Let's give it a try.











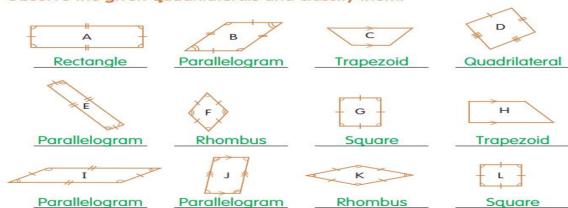
Observe the picture. Answer the following questions.

- Name various shapes you see in the picture. Cone, cylinder, and sphere
- Work out the number of cones and spheres in the picture. cones 2 spheres 4
- Do you see any flat shapes in the picture? Name them.

Kite, triangle Do these 2D shapes actually exist in reality? Discuss. No; 2D shapes can only be drawn on a paper

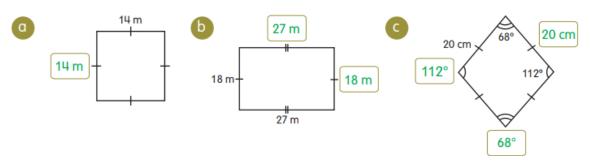


Observe the given quadrilaterals and classify them.



NAbstract Stage (No.

1 Work out the missing values.



2 What would you say about each element of the given quadrilaterals?

	sides	angles
square	All sides are equal and opposite sides are parallel	All angles are right angles
rectangle	Opposite sides are equal and parallel	All angles are right angles
parallelogram	Opposite sides are equal and parallel	Opposite angles are equal
rhombus	All sides are equal and opposite sides are parallel	Opposite angles are equal
trapezoid	One pair of opposite sides is parallel	All angles are different

Number Talk

Are the given solid shapes prisms or pyramids?
Discuss.







Answer: Prisms; As they give us the same shape if we cut it horizontally



Identify the following shapes and write their names.





Cuboid

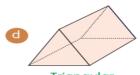


pyramid





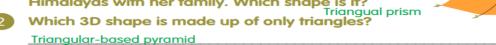
pyramid



Triangular prism

Abstract Stage

- Look at the tent Diya stayed while camping in the Himalayas with her family. Which shape is it?





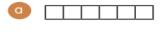
- Collect some old, empty, and paper/cardboard boxes. Open them such that they become flat. Observe them and draw their nets. Note down the faces, edges, and vertices of each.
- Use a chart paper to make the following shapes. Unfold the shapes, and observe them. And, draw their nets.
- (e) Cuboid

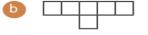


Cube



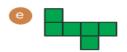
Hintometer: The number of squares is equal to the number of faces of the solid shape.

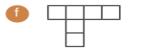


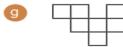




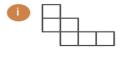


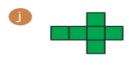






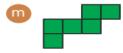


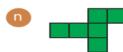


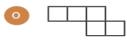


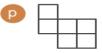






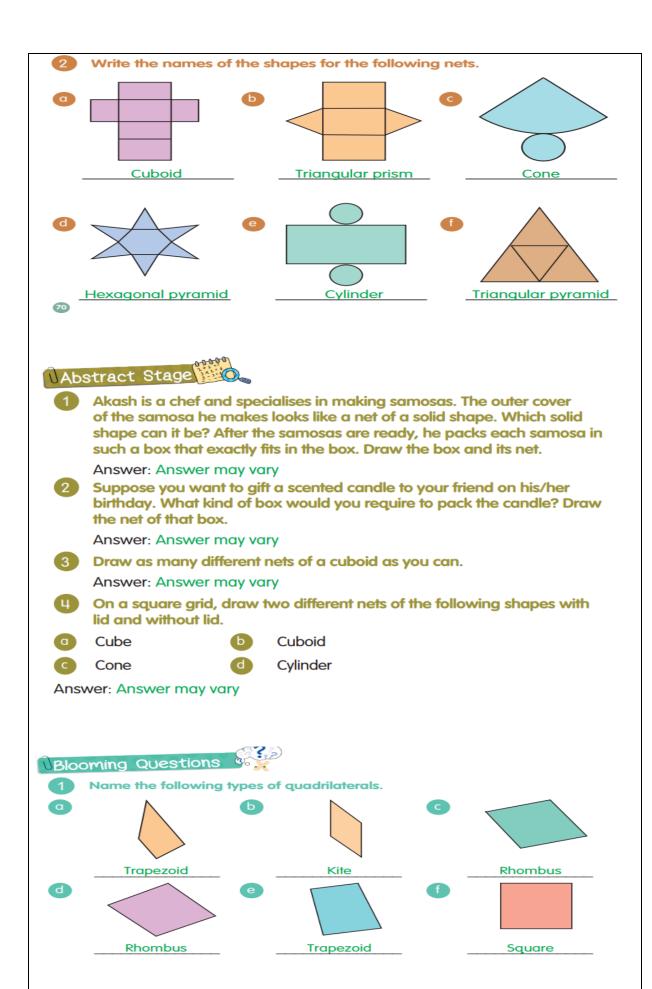




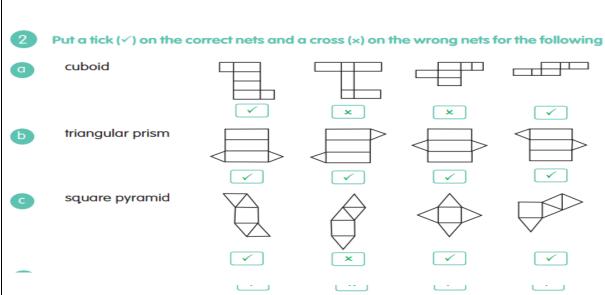


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3 Find out the missing sides and angles of the given figures.



- Tanya says the following sentences. State whether she is correct or not, and explain your reasoning.
- A square is also a rhombus.

Answer: Correct, square is also a rhombus because all sides of square are equal and opposite angles of square are also equal i.e., 90°.

- A rectangle is also a parallelogram.
 - Answer: Correct, rectangle is also a parallelogram because opposite sides of rectangle are equal and parallel and opposite angles of rectangle are also equal I.e., 90°.
- A parallelogram is also a trapezoid.

Answer: Incorrect

d If any prism is cut from the centre, we get two different prisms.

Answer: Correct, because if any prism is cut from the center, we get two same prisms.

All the faces of a pyramid are triangles.

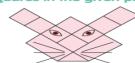
Answer: Not correct, because it is not necessary that all the faces of a pyramid are triangles e.g., square prism have one square face.

Work out the missing angle in the following figure.

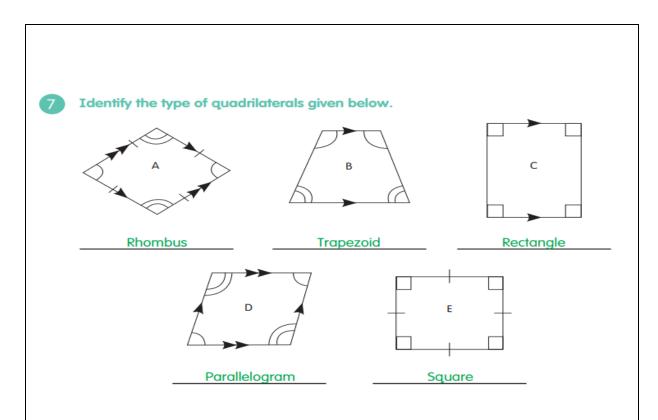


Answer: $360^{\circ} - (110^{\circ} + 80^{\circ} + 60^{\circ}) = 360^{\circ} - 250^{\circ} = 110^{\circ}$

Work out the number of squares in the given picture.



Answer: 9



Post -Activity-Solve mental math in the NB.

S.Teacher H.O.D Co-Ordinator Principal

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