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7 Mth Symmetry MCQs

1. All faces of a pyramid are always: (a) Triangular (b) Rectangular (c) Congruent (d) None of these
2. A solid that has only one vertex is (a) Pyramid (b) Cube (c) Cone (d) Cylinder
3. Out of the following which is a 3-D figure? (a) Square (b) Sphere (c) Triangle (d) Circle
4. Total number of edges a cylinder has (a) 0 (b) 1 (c) 2 (d) 3
5. A solid that has two opposite identical faces and other faces as parallelograms is a (a) prism (b) pyramid (c) cone (d) sphere
6. The solid with one circular face, one curved surface and one vertex is known as: (a) cone (b) sphere (c) cylinder (d) prism
7. If three cubes each of edge 4 cm are placed end to end, then the dimensions of resulting solid are: (a) $12\text{ cm} \times 4\text{ cm} \times 4\text{ cm}$ (b) $4\text{ cm} \times 8\text{ cm} \times 4\text{ cm}$ (c) $4\text{ cm} \times 8\text{ cm} \times 12\text{ cm}$ (d) $4\text{ cm} \times 6\text{ cm} \times 8\text{ cm}$
8. When a torch is pointed towards one of the vertical edges of a cube, you get a shadow of cube in the shape of (a) square (b) rectangle but not a square (c) circle (d) triangle
9. Which of the following sets of triangles could be the lengths of the sides of a right-angled triangle: (a) 3 cm, 4 cm, 6 cm (b) 9 cm, 16 cm, 26 cm (c) 1.5 cm, 3.6 cm, 3.9 cm (d) 7 cm, 24 cm, 26 cm

In Questions 10 to 31, fill in the blanks to make the statements true.

10. In an isosceles right triangle, the number of lines of symmetry is _____.
11. Rhombus is a figure that has _____ lines of symmetry and has a rotational symmetry of order _____.
12. _____ triangle is a figure that has a line of symmetry but lacks rotational symmetry.
13. _____ is a figure that has neither a line of symmetry nor a rotational symmetry.
14. The common portion of two adjacent faces of a cuboid is called _____.
15. A plane surface of a solid enclosed by edges is called _____.
16. The corners of solid shapes are called its _____.
17. A solid with no vertex is _____.
18. A triangular prism has _____ faces, _____ edges and _____ vertices.
19. A triangular pyramid has _____ faces, _____ edges and _____ vertices.
20. A square pyramid has _____ faces, _____ edges and _____ vertices.
21. Out of _____ faces of a triangular prism, _____ are rectangles and _____ are triangles.
22. The base of a triangular pyramid is a _____.
23. Out of _____ faces of a square pyramid, _____ are triangles and _____ is/are squares.
24. Out of _____ faces of a rectangular pyramid _____ are triangles and base is _____.
25. Each of the letters H, N, S and Z has a rotational symmetry of order _____.
26. Order of rotational symmetry of a rectangle is _____.
27. Order of rotational symmetry of a circle is _____.
28. Line of symmetry for an angle is its _____.
29. Each face of a cuboid is a _____.
30. A _____ triangle has no lines of symmetry.
31. A parallelogram has _____ line of symmetry.

In Questions from 32 to 63, state whether the statements are True or False.

32. We can draw exactly one triangle whose angles are 70° , 30° and 80° .
33. The distance between the two parallel lines is the same everywhere.
34. A circle has two lines of symmetry.
35. An angle has two lines of symmetry.
36. A regular hexagon has six lines of symmetry.
37. An isosceles trapezium has one line of symmetry.
38. A parallelogram has two lines of symmetry.
39. Order of rotational symmetry of a rhombus is four.
40. Order of rotational symmetry of a semi circle is two.
41. An equilateral triangle has six lines of symmetry.
42. In oblique sketch of the solid, the measurements are kept proportional.
43. An isometric sketch does not have proportional length.
44. Two dimensional figures are also called plane figures
45. A triangular prism has 5 faces, 9 edges and 6 vertices.
46. A pyramid has only one vertex.
47. A rectangular pyramid has 5 rectangular faces.
48. Rectangular prism and cuboid refer to the same solid.
49. A cone is a polyhedron.
50. A prism has four bases.
51. A cylinder has no vertex.
52. All the faces, except the base of a square pyramid are triangular.
53. If the base of a pyramid is a square, it is called a square pyramid.
54. While rectangle is a 2-D figure, cuboid is a 3-D figure
55. The solid shapes are of two-dimensional.
56. Mirror reflection leads to symmetry always.
57. While sphere is a 2-D figure, circle is a 3-D figure.
58. The number of lines of symmetry of a regular polygon is equal to the vertices of the polygon.
59. The order of rotational symmetry of a figure is 4 and the angle of rotation is 180° only.
60. Rotation turns an object about a fixed point which is known as centre of rotation.

61. Isometric sheet divides the paper into small isosceles triangles made up of dots or lines.
62. The circle, the square, the rectangle and the triangle are examples of plane figures.
63. Triangle with length of sides as 5 cm, 6 cm and 11 cm can be constructed
64. Draw two parallel lines at a distance of 2.2 cm apart.
65. Draw an isosceles triangle with each of equal sides of length 3 cm and the angle between them as 45°.
66. Draw a triangle whose sides are of lengths 4 cm, 5 cm and 7 cm.
67. Construct an obtuse angled triangle which has a base of 5.5 cm and base angles of 30° and 120°.
68. Draw a net of a cuboid having same breadth and height, but length double the breadth.
69. Draw the nets of the following: (i) Triangular prism (ii) Tetrahedron (iii) Cuboid
70. Draw the net of triangular pyramid with base as equilateral triangle of side 3 cm and slant edges 5 cm.
71. Draw the net of a square pyramid with base as square of side 4 cm and slant edges 6 cm.

7 Symposium

Speaker 1- Good morning friends, We welcome you all in our symposium “**Hydrosphere**”. The topic will be covered by,,, and..... The earth is the only planet in our solar system that has the necessary elements to sustain life. These are air, water and soil. Each of these elements forms its own realm, in which it is found. The realm in which water is found is called the hydrosphere. It covers nearly 71 per cent of the earth's surface. It consists of seas, oceans and other water bodies. Thus, hydrosphere is all the water on or near the earth's surface. Most of it is sea water which is salty. Seas and oceans are large bodies of water that make up about 97 per cent of the hydrosphere; the rest is fresh water in the form of continental ice (especially in the polar regions), lakes, rivers and ground water. A small amount of water is found in the form of hydrated minerals and in living organisms too. Most of the water required by plants and animals is supplied from oceans. A vast quantity of water evaporates from oceans into the atmosphere, then circulates over the land in the form of clouds, and falls on the ground in the form of rain, snow, hail or sleet. In this way, it eventually returns to the oceans. This never-ending circulation of the earth's water is called the water or hydrological cycle. Nowwill discuss about major oceans

Speaker 2. - The Northern Hemisphere contains most of the land areas, whereas most part of the Southern Hemisphere is covered by water. The Pacific, Atlantic and Indian Oceans are the major oceans. The Pacific Ocean is the largest and deepest of all. It covers almost one-half of the earth's surface. It is about 165.2 million square kilometres in area and almost circular in shape. The Atlantic Ocean is about 106.4 million square kilometres in area. It forms a broad 'S' shape with the two sides of the 'S' almost similar. The Indian Ocean is about 73.5 million square kilometres in area. The Indian Peninsula enters deep inside it forming a triangle. The remaining two oceans, namely the Arctic and Antarctic are lesser oceans. Nowwill discuss about. **The Hydrosphere And The Atmosphere**

Speaker3 . - Seas and oceans that constitute about 97% of the hydrosphere. The hydrosphere and the atmosphere are like two thin fluid streams in which life is sustained. The atmosphere drives the great oceans and seas, and gives them motion and circulation in the form of waves and currents. In turn, the atmosphere owes its energy to oceans. Unlike fresh water, the ocean water is salty. Waters in the seas and oceans are constantly in motion due to various reasons such as prevailing winds blowing on them, variation in the salinity of water at different points, differences in temperature and the gravitational forces of the Sun and moon. Movements of sea water can be categorised as Waves, Tides and Currents. Nowwill discuss about Waves, Tides and Currents.

Speaker 4. Waves are the undulating rise and fall of water. They are created when the winds blow over the seas and oceans. The greater the wind speed, the higher and more powerful are the waves.

Tides--Tides are rhythmic in nature. Tides are a large scale movement of ocean waters under the gravitational influence of the Sun and the moon. Tides occur twice a day near coastal areas. A rise in the level of ocean water is called the high tide while a fall in the water level of the ocean is called the low tide. This rise and fall -in the level of sea water characterises tides as: (i) Spring Tides, and (ii) Neap Tides. Spring tides are in a line on a full moon or new moon, the tides rise higher. These tides are known as Spring Tides. When the Sun and moon are at right angles with the earth, the gravitational pull of the moon is partially cancelled by the gravitational pull of the Sun, and the tides are not so high. These tides are called Neap Tides. Ocean currents are regular streams of sea water that flow in a constant direction. Nowwill discuss about the advantages provided by waves and tides.

Speaker 5. A few advantages of waves and tides are as follows. 1 Waves and tides bring in and take back sediments which help clean various coastal landforms. 2. Tides are helpful in navigation and fishing. 3. Tidal and wave energies have been tapped to generate electricity in some advanced countries such as USA, UK, France, Canada and Japan. 4. Tides help in clearing mouths of rivers like the River Hooghly in India, and River Thames in England. With this we come to an end of our symposium. Thank You.

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