Introduction to Symmetry

A. Choose the Correct Answer:

1. Which of the following shapes has more than one line of symmetry?

a) Rectangle b) Trapezium

c) Scalene triangle d) Circle

2. A line of symmetry divides a shape into:

a) Two similar parts b) Two equal parts

c) Two identical halves d) None of these

3. Which alphabet has a vertical line of symmetry?

a) F b) M

c) A d) Z

4. A figure with only one line of symmetry among the following is:

a) Equilateral triangle b) Circle

c) Isosceles triangle d) Square

5. Which shape has infinite lines of symmetry?

a) Square b) Circle

c) Pentagon d) Hexagon

B. Write the Missing Terms to Complete the Sentences:

1. A figure is said to be symmetrical if it can be divided into _____ parts that are mirror images.
2. A square has _____ lines of symmetry.
3. An object that does not have any line of symmetry is called _____.
4. The vertical line dividing a figure into two equal parts is called the _____ of symmetry.
5. The English alphabet ‘H’ has _____ line(s) of symmetry.

C. Mark each sentence with a True (✓) or False (✗):

1. All equilateral triangles have three lines of symmetry. ☐
2. The alphabet 'D' has a vertical line of symmetry. ☐
3. A parallelogram has more than one line of symmetry. ☐
4. Every figure that looks the same after rotation has line symmetry. ☐
5. The number 8 has both vertical and horizontal lines of symmetry. ☐

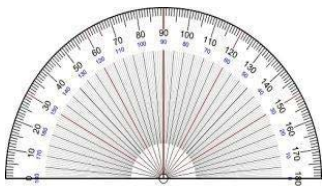
D. Figure out the answers to these questions:

1. Draw any two symmetrical figures and mark their lines of symmetry.
2. Identify whether the given figures are symmetrical or not. (Provide 4 different simple shapes for this in a worksheet.)
3. List all alphabets from A to Z that have a vertical line of symmetry.
4. Which shape among the following has no line of symmetry? — Rhombus, Scalene triangle, Circle, Square
5. How many lines of symmetry does an equilateral triangle have? Explain with a figure.
6. Can a figure have more than one line of symmetry? Give two examples.
7. Create your own symmetrical pattern using a square grid of 4x4.
8. Imagine folding a paper in half and cutting out a shape. Describe what kind of symmetry the resulting figure might have.

E. Challenge yourself with these questions:

1. Draw any 3 shapes that have only one line of symmetry and name them.
2. If you fold a heart shape vertically, do you get symmetrical halves? Justify your answer.
3. Create a paper folding activity to show symmetry using any paper object.
4. Is the letter 'B' symmetrical? Show and explain.
5. Find an example of symmetry from nature and describe it.
6. Find any 3 real-life objects (like clock, leaves, or designs) which show symmetry and describe their lines of symmetry.

F. In the given figure, check whether the figures are symmetric or not. Also draw the lines of symmetry.

1. 
2. 
3. 
4. 
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6.