FUNDAMENTAL GEOMETRICAL CONCEPTS

12

Q1. Fill in the blanks with Line, Line segment or ray:

    a. A _____ has a definite length.

    b. A _____ has only one end point.

    c. A _____ can be extended in both directions.

    d. The length of a _____ can be measured.

Q2. On the basis of the figure given below, state true or false:

    a. Points A, B, C and D lie on the line segment BD.

    b. C and D are the endpoints of the line segment CE.
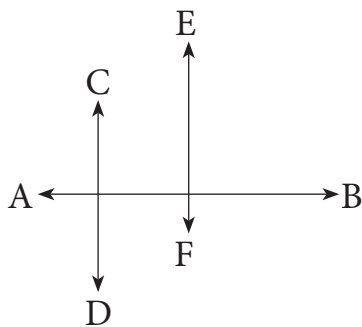
    c. B is a point on the ray AF.

Q3. How many pairs of parallel lines are there in the following figure? Name any two pairs.
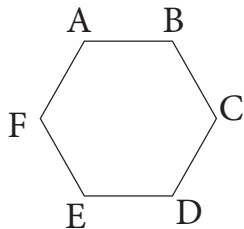
Number of pairs of Parallel lines: _____

Parallel lines: _____

Q4. Identify the perpendiculars and the perpendicular bisector of line AB in the following figure:

Lines Perpendicular to : _____

Perpendicular bisector of : _____

Q5. Find the minimum and maximum points of intersection with:

    a. Three lines

    b. Four lines

Number of lines	Minimum points of intersection	Maximum points of intersection
a. Three	_____	_____
b. Four	_____	_____

Q6. State true or false:

    a. All sides of a rhombus and kite are equal.

    b. The diagonals of a rhombus divide it into three triangles.

    c. If a quadrilateral has one pair of opposite sides parallel, it is a trapezium.

    d. A square is a rhombus having all angles 90°.

Q7. A funnel is made using two 3-D shapes. Write the name of the 3-D shapes and draw their nets.

3-D shape   Net

_____   _____

_____   _____

Q8. How many sides and vertices will the following polygons have:

Polygon	Number of sides	Number of vertices
Triangle	_____	_____
Pentagon	_____	_____
Octagon	_____	_____

Q9. Fill in the blanks:

    a. A cube has _____ vertices.

    b. A _____ has one edge and one vertex.

    c. A sphere has ___ flat face and ___ curved face.

    d. A triangular prism has _____ edges.

Q10. Draw a rectangle ABCD. Join its diagonals. Name two pairs each of intersecting lines, parallel lines and perpendicular lines in the rectangle.

    Answer: _____

Intersecting Lines: _____

2

Parallel Lines: _____

Perpendicular lines: _____

Answers: _____

1. a. line segment   b. ray   c. line   d. line segment

2. a. False   b. False   c. True

3. 3 pairs, AB∥ED, BC∥FE

4. Lines Perpendicular to $\overleftrightarrow{AB} \perp \overleftrightarrow{CD}$ and $\overrightarrow{EF}$

   Perpendicular bisector of $\overleftrightarrow{AB}$ is $\overleftrightarrow{EF}$

5. a. Minimum: 1, Maximum: 3   b. Minimum: 1, Maximum: 6

6. a. False,   b. False,   c. True,   d. True

7.
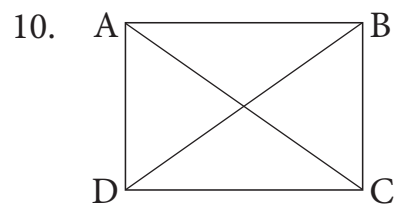| 3-D shape	Net
Cone	
Cylinder	
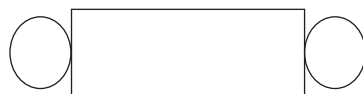
8.
Polygon	Number of sides	Number of vertices
Triangle	3	3
Pentagon	5	5
Octagon	8	8

9. a. 8   b. Cone   c. no, 1   d. 9

10.

   Intersecting Lines: AC and BD, AB and AD

   Parallel Lines: AB and CD, BC and AD

   Perpendicular lines: AD and AB, BC and CD