



MATHS

BOOKS - MBD

BASIC GEOMETRICAL IDEAS

Example

1. Use the figure to name

five points





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2. Use the figure to name

a line



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3. Use the figure to name

four rays





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4. Use the figure to name
five line segments.



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5. Name the line given in all possible (twelve)
ways, choosing only two letters at a time from
the four given.





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6. Name:

Line containing point E.



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7. Name:

Line passing through A.

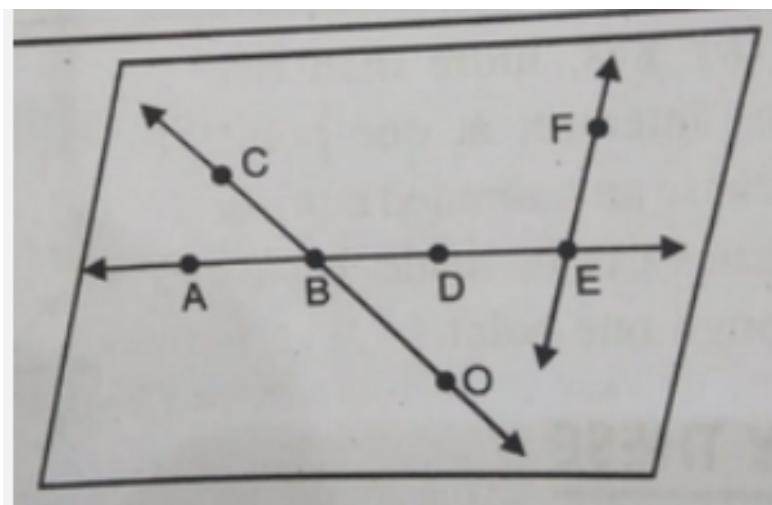




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8. Name:

Line on which O lies.



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9. Name:

Two pairs of intersecting lines.



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**10. How many lines can pass through
one given point?**



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11. How many lines can pass through two given points?



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12. Draw a rough figure and label suitably in each of the following cases:

Point P lies On \overline{AB} .



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13. Draw a rough figure and label suitably in each of the following cases:

Line l contains E and F but not D .



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14. Draw a rough figure and label suitably in each of the following cases:

\overrightarrow{OP} and \overrightarrow{OQ} meet at O .



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15. Consider the following figure of line MN .
Say whether following statements are true or false in context of the given figure.

Q, M, O, N, P are points on the line MN .



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16. Consider the following figure of line MN .
Say whether following statements are true or false in context of the given figure.

M, O, N are points on a line segment \overline{MN} .



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17. Consider the following figure of line MN .
Say whether following statements are true or false in context of the given figure.

M and N are end points of segment \overline{OP} .



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18. Consider the following figure of line MN .
Say whether following statements are true or

false in context of the given figure.

O and N are end points of line segment \overline{QO} .



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19. Consider the following figure of line MN

.Say whether following statements are true or

false in context of the given figure.

M is point on ray \overrightarrow{OP} .



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20. Consider the following figure of line MN

.Say whether following statements are true or

false in context of the given figure.

Ray \overrightarrow{OP} is different as ray \overrightarrow{ON} .



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21. Consider the following figure of line MN

.Say whether following statements are true or

false in context of the given figure.

Ray \overrightarrow{OQ} is same as ray \overrightarrow{OM} .





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22. Consider the following figure of line MN . Say whether following statements are true or false in context of the given figure.

Ray \overrightarrow{OM} is not opposite to ray \overrightarrow{OP} .



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23. Consider the following figure of line MN . Say whether following statements are true or

false in context of the given figure.

O is not an initial point of \overrightarrow{OP} .



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24. Consider the following figure of line MN

.Say whether following statements are true or

false in context of the given figure.

N is initial point of \overrightarrow{NP} and \overrightarrow{NM} .



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25. Classify the following curves as

Open or

Closed:



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26. Draw a rough diagrams to illustrate the following:

Open Curve

Closed Curve.



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27. Draw any polygon and shade its interior.

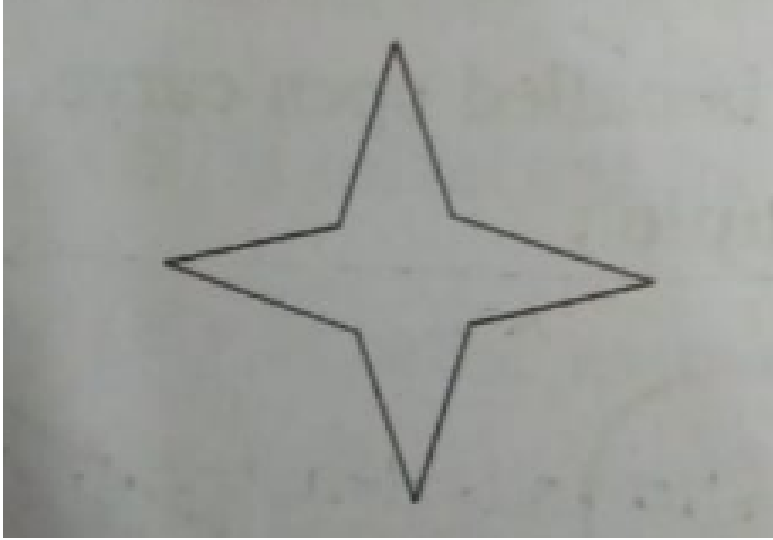


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28. Consider the given figure and answer the questions:

Is it a curve?

Is it closed?



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29. Illustrate, if possible, each one of the following with a rough diagram:

A closed curve that is not a polygon.





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30. Illustrate, if possible, each one of the following with a rough diagram:

An open curve made up entirely of line segments.



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31. Illustrate, if possible, each one of the following with a rough diagram:

A polygon with two sides.



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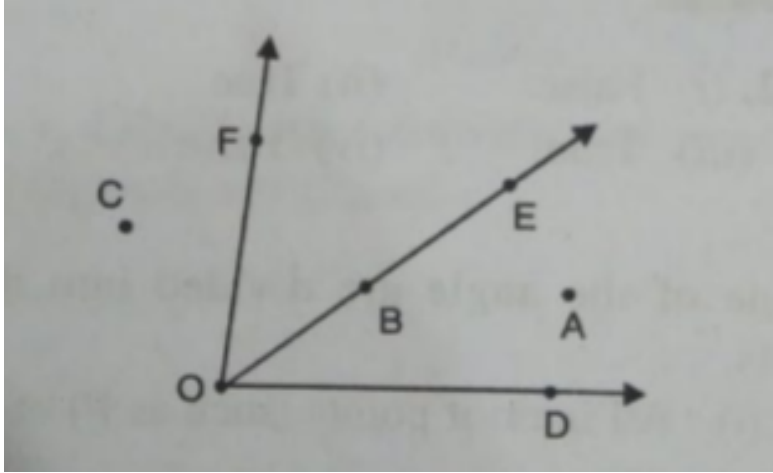
32. Name the angles in the given figures:



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33. In the given diagram, name the points(s).

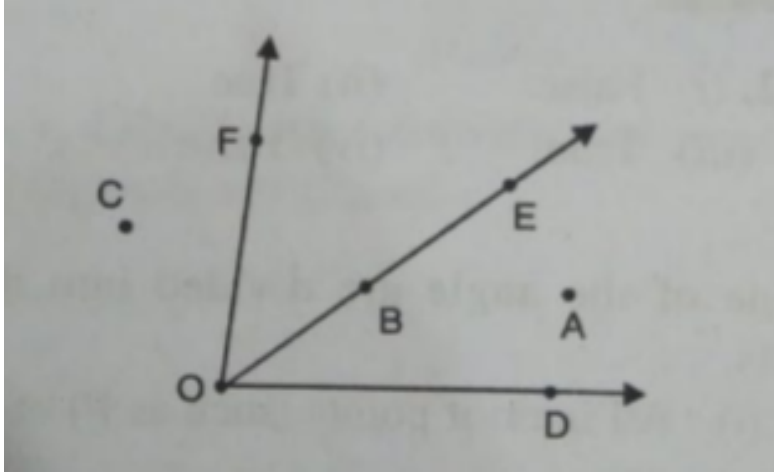
In the interior of $\angle(DOE)$



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34. In the given diagram, name the point(s).

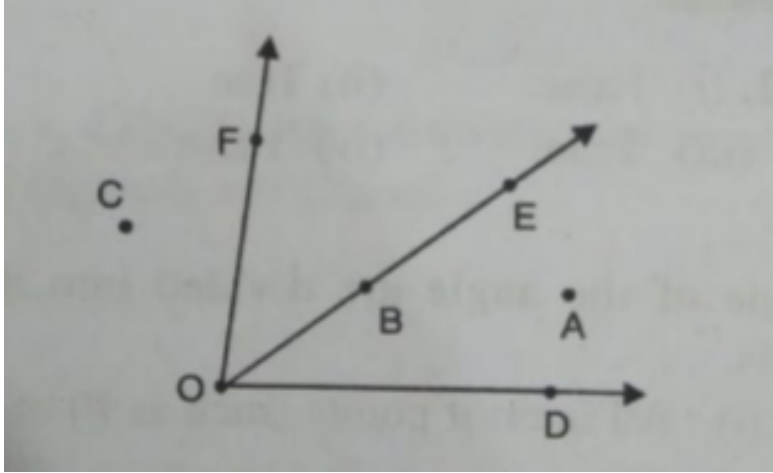
In the exterior of $\angle(EOF)$.



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35. In the given diagram, name the point(s).

O angle (EOF).



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36. Draw rough diagrams of two angles such that they have :

One point in common

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37. Draw rough diagrams of two angles such that they have :

Two points in common



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38. Draw rough diagrams of two angles such that they have :

Three points in common



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39. Draw rough diagrams of two angles such that they have :

Four points in common



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40. Draw rough diagrams of two angles such that they have :

One ray in common.

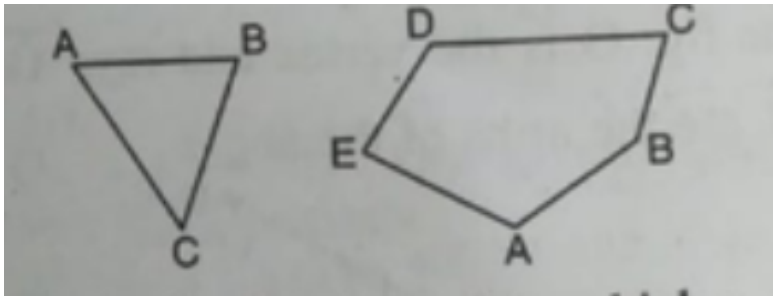


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41. Name the vertex and the arms of $\angle(ABC)$ shown.

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42. How many angles are formed in the figures given below? Name them.



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43. In fig. list the points which:
are in the interior of $\angle(DOF)$.



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44. In fig. list the points which:
are in the exterior of $\angle(BOF)$.



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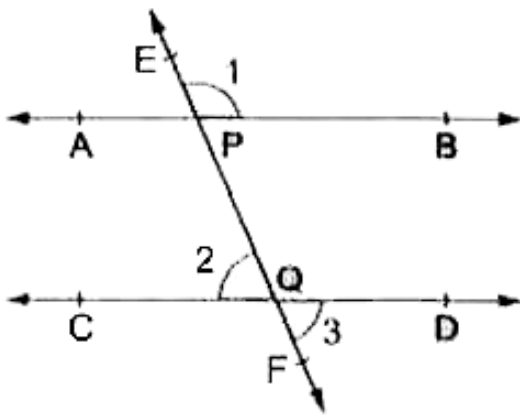
45. In fig. list the points which:

lie on $\angle(BOF)$.



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46. In fig. (shown on right), write another name for $\angle 1$, $\angle 2$, $\angle 3$.



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47. Draw a rough sketch of a triangle ABC. Mark a point P in its interior and a point Q in its exterior. Is the point A in its exterior or in its interior?



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48. Identify three triangles in the figure.



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49. Write the names of seven angles.



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50. Which two triangles have $\angle B$ as common ?



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51. Draw a rough sketch of a quadrilateral PQRS .Draw its diagonals.

Name them.Is the meeting point of the diagonal in the interior or exterior of the quadrilateral?



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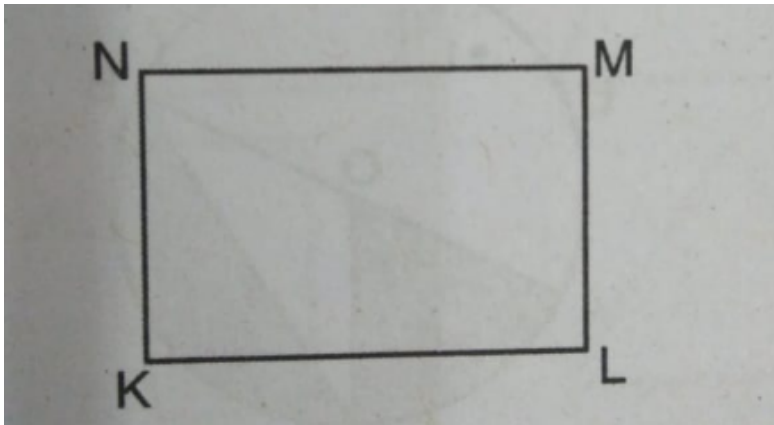
52. Draw a rough sketch of a quadrilateral KLMN.State:

two pairs of opposite sides.



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53. Draw a rough sketch of a quadrilateral KLMN. State:
two pairs of opposite angles.

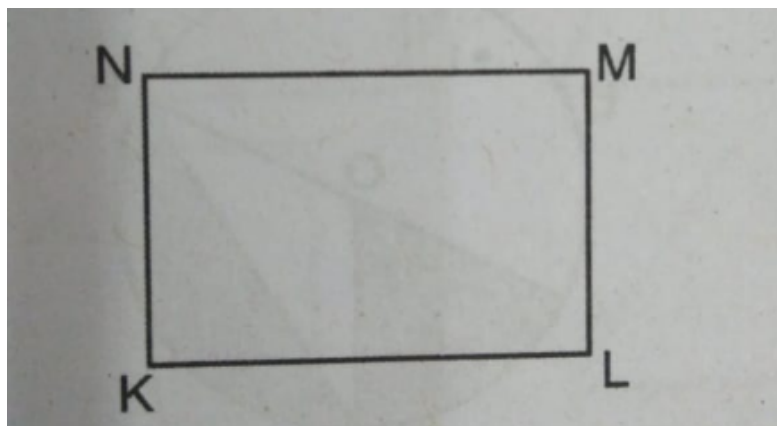


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54. Draw a rough sketch of a quadrilateral

KLMN.State:

two pairs of adjacent sides.

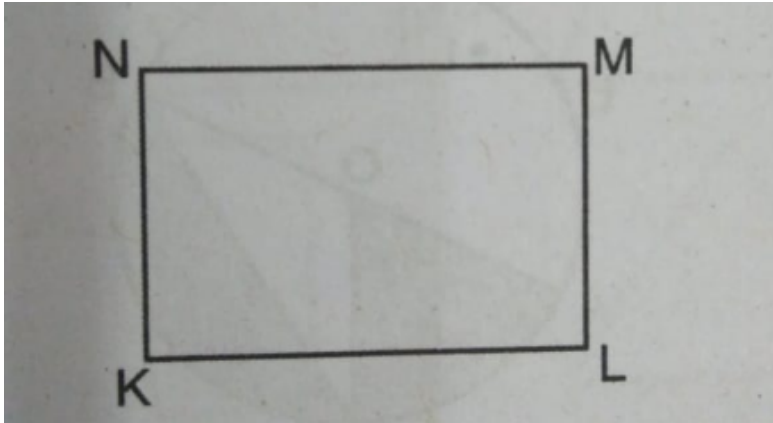


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55. Draw a rough sketch of a quadrilateral

KLMN.State:

two pairs of adjacent angles.



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56. Investigate:

Use strips and fasteners to make a triangle and a quadrilateral.

Try to push inward at any one vertex of the

triangle. Do the same to the quadrilateral.

Is the triangle distorted? Is the quadrilateral distorted? Is the triangle rigid?

Why is it that structures like electric towers make use of triangular shapes and not quadrilaterals?



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57. From the figure, identify:

the centre of circle.



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58. From the figure, identify:

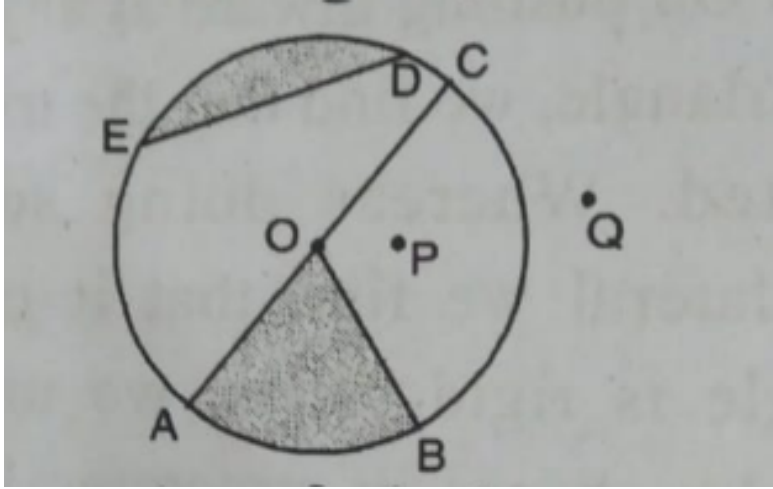
three radii



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59. From the figure, identify:

a diameter



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60. From the figure, identify:

a chord



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61. From the figure, identify:

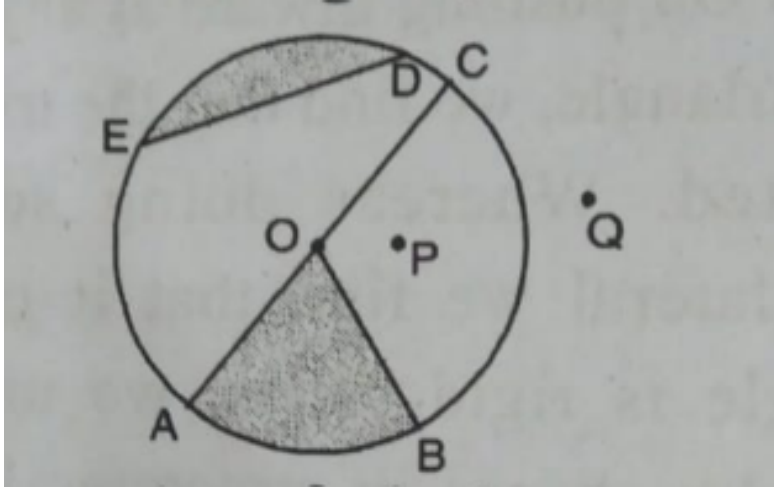
two points in the interior



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62. From the figure, identify:

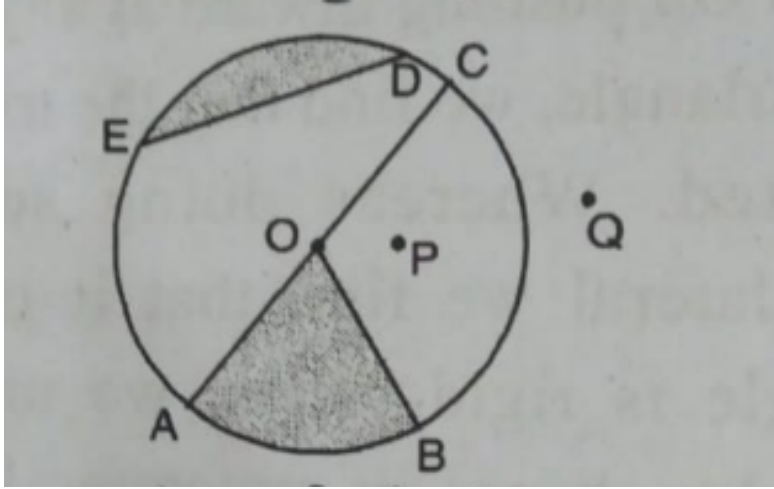
a point in the interior



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63. From the figure, identify:

a sector



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64. From the figure, identify:
a segment.

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65. Is every diameter of a circle also a chord?



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66. Is every chord of a circle also a diameter?



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67. Draw any circle and mark:

its centre



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68. Draw any circle and mark:

a radius



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69. Draw any circle and mark:

a diameter



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70. Draw any circle and mark:

a sector



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71. Draw any circle and mark:

a segment.



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72. Draw any circle and mark:

a point in its interior



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73. Draw any circle and mark:

a point in its exterior



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74. Draw any circle and mark:

an arc.



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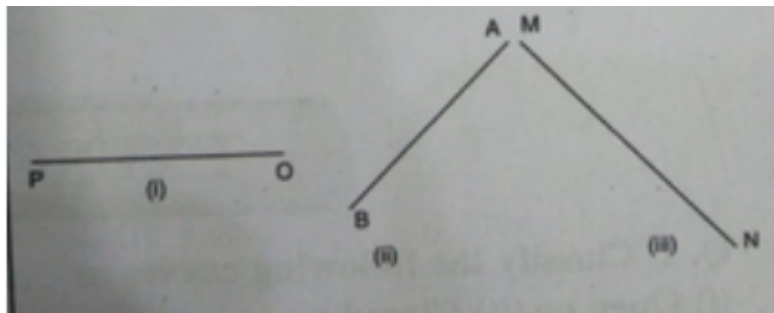
Exercise

1. Count the number of line segments drawn in each of the following figures and name the:



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2. Name the end-points of each the following figures:



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3. Classify the following curves as

Open or

Closed:



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4. State which of the following are True and

Which are False:

An open figure cannot be a curve.



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5. State which of the following are True and Which are False:

An open figure formed by the straight lines cannot be a polygon.



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6. State which of the following are True and Which are False:

A closed curve has no end points.



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7. State which of the following are True and Which are False:

The sides of a polygon are called its diagonals.



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8. Take three collinear points A,B,C on a page of your note-book.Join AB,BC and CA. Is the figure a triangle ?If not,why?



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9. Take three non-collinear points P, Q and R on a page of your note-book. Joint PQ, QR and RP. What figure do you get? Name the triangle. Also name:
the side opposite to $\angle Q$.



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10. Take three non-collinear points P, Q and R on a page of your note-book. Joint PQ, QR and RP. What figure do you get? Name the

triangle. Also name:

the angle opposite to side PQ



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11. Take three non-collinear points P, Q and R on a page of your note-book. Join PQ, QR and RP. What figure do you get? Name the triangle. Also name:

the side opposite to vertex Q.



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12. Take three non-collinear points P,Q and R on a page of your note-book. Joint PQ,QR and RP.What figure do you get?Name the triangle.Also name:

the side opposite to vertex side QR.



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13. In the adjoining figure,D is a point on the side BC of $\triangle (ABC)$. AD is joined .Name all the triangles that you can observe in the figure.How many are they?.



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14. In the adjoining figure, name all triangles that you can observe.



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15. Draw a rough sketch of the quadrilateral ABCD. How many diagonals it has? Are they necessarily equal?



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16. State true or false of the following:

A quadrilateral consists of lines and curves.



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17. State true or false of the following:

Opposite sides of the quadrilateral are always equal.



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18. State true or false of the following:

There are two diagonals in a quadrilateral.



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19. In each of the following state if the statement is true or false:

Every circle has a centre.



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20. In each of the following state if the statement is true or false:

The centre of a circle is a point of the circle.



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21. In each of the following state if the statement is true or false:

Any two radii of a circle make up diameter.



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22. In each of the following state if the statement is true or false:

The diameter is twice the radius.



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23. Fill in the blanks.

The diameter of a circle is __ times its radius.



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24. Fill in the blanks.

The diameter of the circle pass through __



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25. Fill in the blanks.

All radii of the circle are___.



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26. Which of the following figure is not a polygon?

A.



B.



C.



D.



Answer:



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27. Which of the following figure is a regular polygon ?

A.



B.



C.



D.

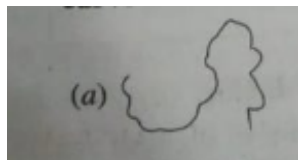


Answer:



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28. Which of the following is a closed curve ?



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29. Which of the following is an open curve?

A.



B.



C.



D.



Answer:



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30. Two different line when intersect each other at some point,they are called?

A. Intersecting lines

B. Parallel lines

C. Concurrent lines

D. None of these.

Answer:



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31. In the environment, a railway track is an example of :

A. intersecting lines

B. concurrent lines

C. parallel lines

D. None of these.

Answer:



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32. In the environment, a nail fixed in the wall is an example of:

A. Parallel lines

B. A point

C. Point of intersection

D. None of these.

Answer: B



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33. The intersection of the three walls of a room, is an example of :

A. Intersecting lines

B. Parallel lines

C. Concurrent lines

D. collinear lines.

Answer:



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