MATHS

BOOKS - RD SHARMA MATHS (ENGLISH)

BASIC GEOMETRICAL CONCEPTS

Others

1. From Figure, name

(i)All pairs of parallel lines.

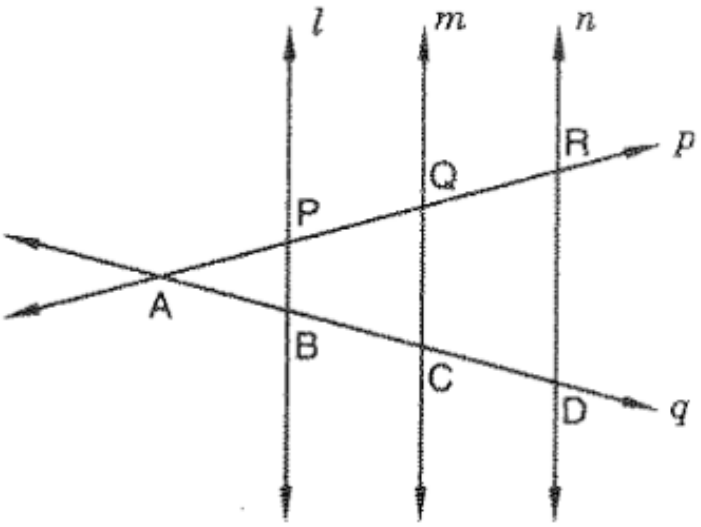
(ii)all pairs of intersecting lines.

(iii)ines of whose point of intersection in P

(iv)lines whose point of intersection in C

(v)lines whose point of intersection in R

(vi)Collinear points.



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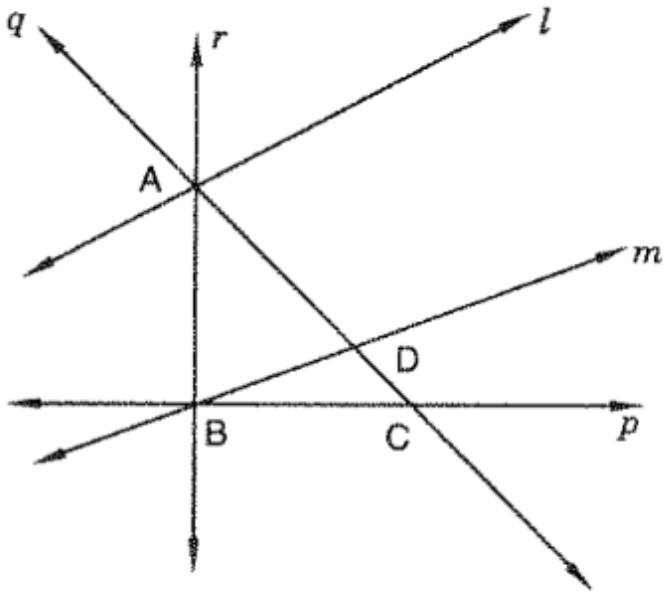
2. From Figure, write

(i)Lines intersecting at A

(ii)Lines intersecting at B

(iii)Concurrent lines and their point of concurrence.



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3. Mark three points in your notebook and name them.

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4. Draw a line in your notebook and name it using a small letter of the alphabet.

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5. Draw a line in your notebook and name it by taking any two points on it.

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6. Give three examples from your environment of: (i)Points (ii) Portion of a line (iii)Plane surfaces (iv) portion of a plane (v)Curved surfaces

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7. There are a number of ways by which we can visualise a portion of a line. State whether the following represent a portion of a line or not: A piece of elastic stretched to the breaking point. Wire between two electric poles. The line thread by which a spider lowers itself.

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8. Can you draw a line on the surface of a sphere which lies wholly on it?

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9. Mark a point on a sheet of paper and draw a line passing through it. How many lines can you draw through this point?

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10. mark any two points $P\ and\ Q$ in your note book and draw a line passing through the points. How many lines can you draw passing through both the points?

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11. Given an example of a horizontal plane and a vertical plane from your environment.

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12. How many lines may pass through one given point, two given points, any three collinear points?

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13. Is it ever possible for exactly one line to pass through three points?

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14. Explain why it is not possible for a line to have a mid-point.

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15. Mark three non-collinear points A, $B\,and\,C$ in your not book. Draw lines through these points taking two at time. Name these lines. How many such different lines can be drawn?

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16. Coplanar points are the points that are in the same plane. Thus, Can 150 points be coplanar? Can 3 points be non-coplanar?

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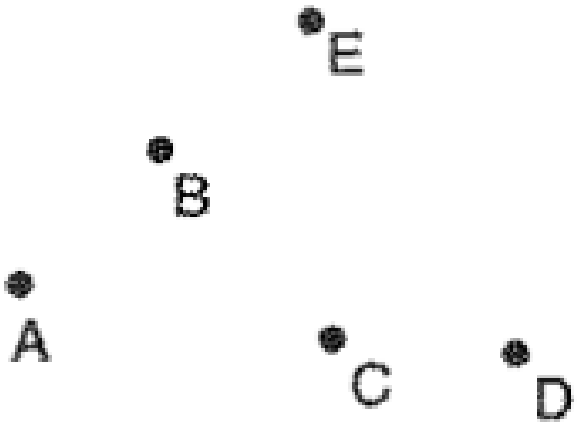
17. Using a ruler, check whether the following points given in fig. 10.20 are collinear or not:

(i)D, A and C

(ii) A, B and C

(iii)A, B and E

(iv) B, C and E



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18. Lines p, q are coplanar. So are the lines p, r . Can conclude that the lines p, q, r are coplanar?

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19. Given three examples each of : (a) intersecting lines (b)parallel lines from your environment.

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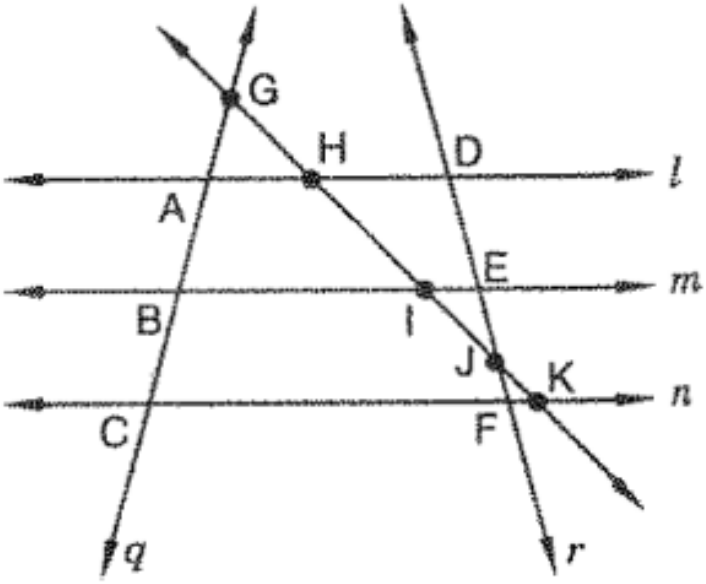
20. Form Fig., write

(i)all pairs of parallel lines. (ii)all pairs of intersection lines. (iii)lines whose point of intersection is l . (iv) lines whose point of intersection is D . (v) lines whose point of intersection is E . (vi) lines whose point of

intersection is A .



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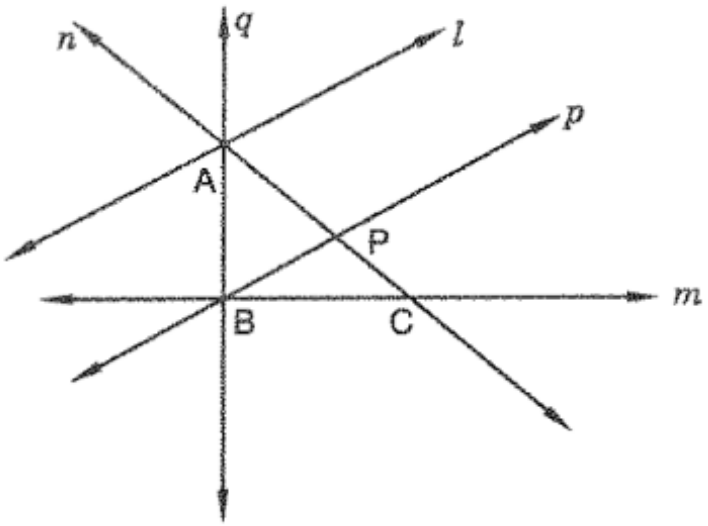
21. From Fig., write concurrent lines and their points of concurrence.



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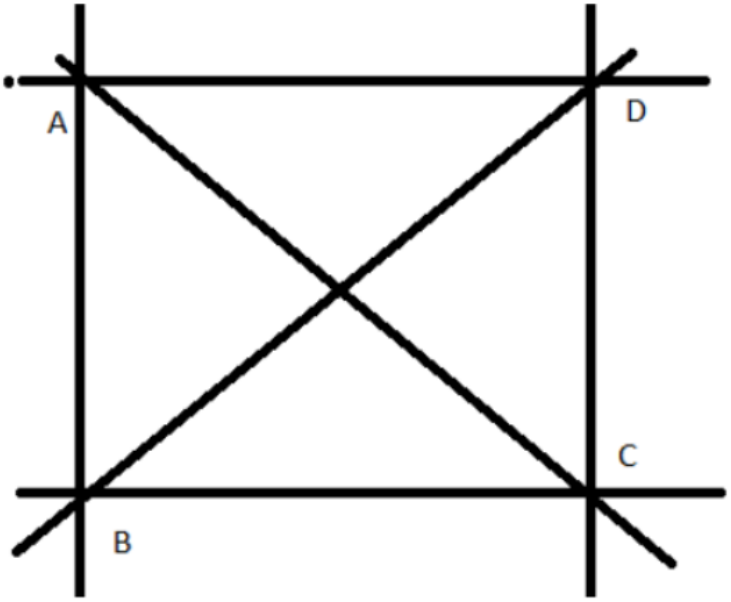
22. Mark four points A, B, C *and* D in your notebook such that no three of them are collinear. Draw all the lines which join them in pairs as shown in Fig.



How many such lines can be drawn? Write the names of these lines. Name the lines which are concurrent at A .

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23. What is the maximum number of points of intersection of three lines in a plane? What is the minimum number?

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24. With the help of figure, find the maximum and minimum number of points of intersection of four lines in a plane.

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25. Lines $p,\ q\ and\ r$ are concurrent. Also, lines $p,\ r\ and\ s$ are concurrent. Draw a figure and state whether lines $p,\ q,\ r\ and\ s$ are concurrent or not.

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26. Lines $p,\ q\ and\ r$ are concurrent. Also lines $p,\ s\ and\ t$ are concurrent. Is always true that the lines $q,\ r\ and\ s$ will be concurrent? Is it always true for lines $q,\ r\ and\ t$?

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27. Fill in the blanks in the following statements using suitable words: (a) A page of a book is a physical example of a ..... (b) An inkpot has both.... surfaces (c) Two lines in a plane are either ....or are.....

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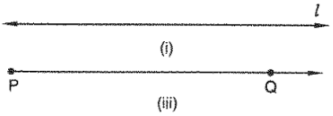
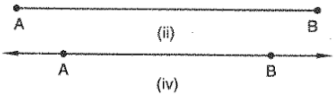
28. Identify rays and line segments form the following figures:





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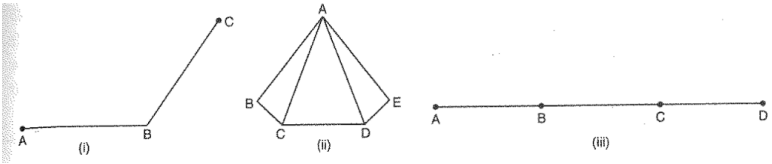
29. How many line segments are there in each of the following figures? Name all of them.



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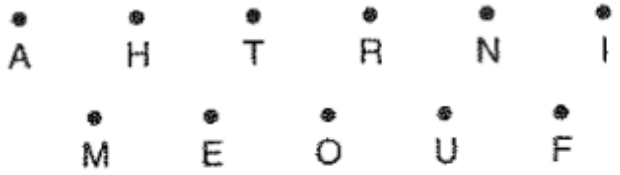
30. In Fig. points are given in two rows. Join the points AM, HE, TO, RUN, IF . How many line segments are formed?



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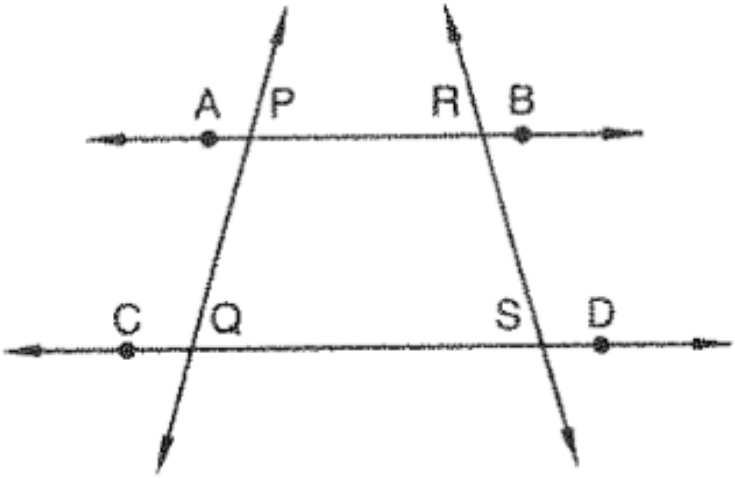
31. In Fig., name: Five line segments.

(ii) Five rays (iii) Non-intersection line

segments



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32. In each of the following cases, state whether you can draw line segments on the given surfaces: The face of a cuboid. The

surface of an egg or apple. The curved surface of a cylinder. The curved surface of a cone. The base of a cone.

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33. Mark the following points on a sheet of paper. Tell how many line segments can be obtained in each case: Two points A, B. Three non-collinear points A, B, C. Four points such that no three of them belong to the same line.

Any five points so that on three of them are collinear.

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34. Count the number of line segments in Fig.

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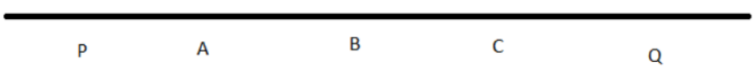
35. In Fig.,



name all rays with initial points as A, B *and* C respectively. Is ray AB different from ray AC ? Is ray BA different from ray CA ? Is ray CP different from ray CQ ?

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36. Give three examples of line segments from your environment.

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37. Draw rough diagrams to illustrate the following: (i) Open curve (ii) Closed curve

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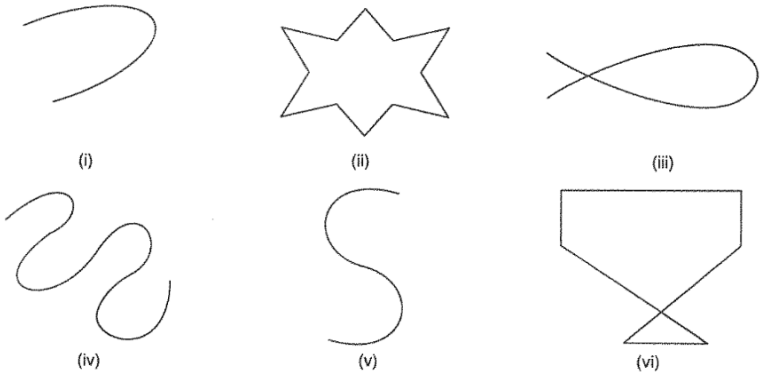
38. Classify the following curves as open or closed:



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39. Draw any polygon and shade its interior.

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40. Illustrate, if possible, each one of the following with a rough diagram: (a) A closed curve that is not a polygon. (b) An open curve made up entirely of line segments. (c) A polygon with two sides.

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