



MATHS

BOOKS - RD SHARMA MATHS (HINGLISH)

BASIC GEOMETRICAL CONCEPTS

All Questions

1. From Figure, name All pairs of parallel lines.

all pairs of intersecting lines. lines of whose

point of intersection in P lines whose point of intersection in C lines whose point of intersection in R Collinear points.

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2. From Figure, write Lines intersecting at ALines intersecting at B Concurrent lines and their point of concurrence.

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.



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: Points (ii) Portion of a line Plane

surfaces (iv) portion of a plane Curved

surfaces

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.



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

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?





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

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.

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?



17. Using a ruler, check whether the following points given in fig. 10.20 are collinear or not: D,
A and C (ii) A, B and C 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?



20. Form Fig., write all pairs of parallel lines. all pairs of intersection lines. lines whose point of intersection is l . lines whose point of

intersection is D . lines whose point of intersection is E . lines whose point of intersection is A . collinear points

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21. From Fig., write concurrent lines and their

points of concurrence.

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



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.



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?

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

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28. State which of the following statements are true (T) and which false (F): Point has a size because we can see it as a thick dot on

paper. By lines in geometry, we mean only straight lines. Two lines in a place always intersect in a point. Any plane through a vertical line is vertical. Any plane through a horizontal line is horizontal. There cannot be a horizontal line is a vertical plane. All lines in a horizontal plane are horizontal. Two lines in a plane always intersect in a point. If two lines intersect at a point P , then P is called the point of concurrence of the two lines. If two lines intersect at a point p, then p is called the point of intersection of the two lines. If A, B, C and D are collinear points

D, P and Q are collinear, then points A, B, C, D, P and Q and always collinear. Two different lines can be drawn passing through two given points. Through a given point only one line can be drawn. Four points are collinear if any three of them lie on the same line. The maximum number of points of intersection of three lines in three. The minimum matching of the statements of column A and Column B.

29. Give the correct matching of the statements of column *A* and Column *B*. Point are collinear Line is completely known Two lines in a plane Relations between points and lines Three non-collinear points A plane extends Indefinite number of lines Point, line and plane are

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30. Identify parallel line segments shown in Figure. Figure (ii) Figure (iii) Figure Figure (v)



32. In Fig. points are given in two rows. Join the points AM, HE, TO, RUN, IF. How

many line segments are formed? Figure

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33. In Fig., name: Five line segments.
(ii) Five rays Non-intersection line

segments

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34. 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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35. 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.



from ray AC ? Is ray BA different from ray

CA ? Is ray CP different from ray CQ ?



38. Given three examples of line segments

from your environment.

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



41. Draw any polygon and shade its interior.



42. 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.