MATHS

BOOKS - RD SHARMA MATHS (ENGLISH)

CONSTRUCTION

Others

1. Draw line segment of length $6.6 \, cm.$ Bisect it and measure the length of each part.

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2. Draw a line segment PQ length $8.4\,cm$. Draw the perpendicular bisector of this line segment.

3. Draw a line segment of length 8.6 cm. Bisect it and measure the length of each part.

4. Draw a line segment AB of length $5.8cm$. Draw the perpendicular beisector of this line segment.

5. Draw a circle with centre at point O and radius 5 cm. Draw its chord AB, draw the perpendicular bisector of line segment AB. Does it pass through the centre of the circle?

6. Draw a circle with centre at point O. Draw its two chords $AB \, and \, CD$ such that AB is not parallel to CD. Draw the perpendicular bisector of $AB \, and \, CD$. At what point do they intersect?

7. Draw a line segment of length 10cm and bisect it. Further bisect one of the equal parts and measure its length.

8. Draw a line segment AB and bisect it. Bisect one of the equal parts to obtain a line segment of length $\frac{1}{4}(AB)$

9. Draw a line segment AB and by ruler and compasses, obtain a line segment of length $\frac{3}{4}(AB)$

10. Using a protractor, draw an angle of measure 72^0. With this angle as given, draw an angle of measure 36^0.

11. Using a protractor, draw an angle of measure 128^0. With this angle as given, draw an angle of measure 96^0.

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12. Draw an angle and label it as $\angle BAC$. Construct another angle, equal to $\angle BAC$.

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13. Draw an obtuse angle. Bisect it. Measure each of the angles so obtained.

14. Using your protractor, draw an angle of measure 108^0. With this angle as given, draw an angle of 54^0.

15. Using protractor, draw a right angle. Bisect it to get an angle of measure 45^0.

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16. Draw a linear pair of angles. Bisect each of the two angles. Verify that the two bisecting rays are perpendicular to each other.

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17. Draw a pair of vertically opposite angles. Bisect each of the two angles. Verify that the bisecting rays are in the same line.

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18. Using ruler and compasses only, draw a right angle.

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19. Using ruler and compasses only, draw an angle of measure 135^0

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20. Using a protractor, draw an angle of measure 72^0. With this angle as given, draw angles of measure $36^0 and 54^0$.

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21. Construct the following angles at the initial point of a given ray and justify the construction: (i) 45^0 (ii) 90^0

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22. Construct the angles of the following measurements: 30^0 (ii) 75^0 (iii) 105^0

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23. Construct the angles of the following measurements: 135^0 (ii) 15^0 (iii) $22\dfrac{1}{2}^0$

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24. Construct a triangle ABC in which $AB = 5.8cm$, $BC + CA = 8.4\ cm$ and $\angle B = 60^0$

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25. Construct a triangle ABC, in which $BC = 3.8\ cm$, $\angle B = 45^0$ and $AB + AC = 6.8\ cm$

26. Construct a right triangle whose base is $12cm$ and sum of its hypotenuse and other side is $18cm$

27. Construct a triangle ABC in which base $AB = 5cm, \ \angle A = 30^0 \ and \ AC - BC = 2.\ 5cm.$

28. Construct a triangle ABC in which $BC = 5.7\,cm,\ \angle B = 45^0,\ AB - AC = 3cm$

29. Construct a ABC in which $BC = 5.6\,cm,\ AC - AB = 1.6\,cm\ and\ \angle B = 45^0$.

Justify your construction.

30. Construct a triangle PQR whose perimeter is equal to $14cm$, $\angle p = 45^0$ and $\angle q = 60^0$

31. Construct a ABC in which $BC = 3.6\ cm$, $AB + AC = 4.8\ cm$ and $\angle C = 60^0$

32. Construct a ABC in which $AB + AC = 5.6\ cm$, $BC = 4.5\ cm$ and $\angle B = 45^0$

33. Construct a ABC in which

$BC = 3.4\, cm, \ AB - AC = 1.5cm \ and \ \angle B = 45^0$

34. Using ruler and compasses only, construct a

ABC, given base

$BC = 7\, cm, \ \angle ABC = 60^0 \ and \ AB + AC = 12\, cm$

35. Construct a triangle whose perimeter is 6. 4 cm, and angles at the base are $60^0 and 45^0$.

36. Using ruler and compasses only, construct a ABC from the following data: $AB + BC + CA = 12cm, \angle B = 45^0 and \angle C = 60^0$

37. Construct a right-angled triangle whose perimeter is equal to 10cm and one acute angle

equal to 60^0.

38. Construct a triangle ABC such that $BC = 6cm$, $AB = 6\ cm$ and median $AD = 4cm$.

39. Construct a right triangle ABC whose base BC is $6\ cm$ and the sum of hypotenuse AC and other side AB is $10\ cm$

40. Construct a triangle XYZ in which $\angle Y = 30^0$, $\angle Z = 90^0$ and $XY + YZ + ZX = 11cm$