MATHS

BOOKS - RD SHARMA MATHS (ENGLISH)

GEOMETRICAL CONSTRUCTIONS

Others

1. Construct line segments whose lengths are:

4.8cm (ii) 12cm 5mm (iii) 7.6cm

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2. Construct two segments of lengths 4.3cm and 3.2cm. Construct a segment whose length is equal to the sum of the lengths of these segments.

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3. How many lines can be drawn which are perpendicular to a given line and pass

through a given point lying (i) outside it? (ii) on it?

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4. Draw a line PQ . Take a point R on it. Draw a line perpendicular to PQ and passing through R. (Using (i) ruler and a set-square (ii) ruler and compasses)

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5. Draw a line l. Take a point A, not lying on l. Draw a line m such that $m \perp l$ and passing through A. (Using (i) ruler and a set-square (ii) ruler and compasses)

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6. Draw a line segment AB of lineth 10cm. Mark a point P on AB such that $AP = 4cm$. Draw a line through P perpendicular to AB.

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7. Draw a line segment PQ of length 12cm. Mark a point O outside this segment. Draw a line through O perpendicular to PQ.

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8. Using a protractor, draw $\angle BAC$ of measure 70^0. On side AC, take a point P, such that $AP = 2cm$. From P draw a line perpendicular to AB.

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9. Draw a line segment AB of length 8cm. At each end of this line segment, draw a line perpendicular to AB. Are these two lines parallel?

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10. Using a protractor, draw $\angle BAC$ of measure 45^0. Take a point P in the interior of $\angle BAC$. From P draw line segments

$PM\ and\ PN$ such that $PM \perp AB\ and\ PN \perp AC$, Measure $\angle MPN$.

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11. Draw an angle and label it as $\angle BAC$. Draw its besector ray AX and $PN \perp AC$ PN_|_ AB , where $M\ and\ N$ are respectively points on rays $AB\ and\ AC$. Measure $PM\ and\ PN$. Are the two lengths equal?

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12. Draw a line segment of length 6.6cm. Bisect it and measure the length of each part.

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13. Draw a line segment PQ of length 8.4cm. Draw the perpendicular bisector of this line segment.

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

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

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

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17. 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?

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

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19. Draw a line segment AB and bisect it. Bisect one of the equal parts of obtain a line segment of length $\frac{1}{2}(AB)$.

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

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21. Draw an angle and label it as $\angle BAC$. Construct an angle $\angle EDF$ such that $\angle EDF = 2\angle BAC$.

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22. Draw an angle and label it as $\angle PQR$. Construct another angle $\angle BAC$ such that $\angle BAC = 3\angle PQR$.

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

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

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

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

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

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

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30. 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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31. Using ruler and compasses only, draw a right angle.

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

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33. 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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34. Construct an angle of 60^0 with the help of compasses and bisect it by paper folding.

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35. Construct the following angles with the help of ruler and compasses only: 30^0 (ii) 90^0 (iii) 45^0 (iv) 135^0 150^0 (vi) 105^0

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36. Construct a rectangle whose adjacent sides are $8cm\ and\ 3cm$.

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