



### MATHS

# BOOKS - RD SHARMA MATHS (ENGLISH)

## **GEOMETRICAL CONSTRUCTIONS**

#### Others

1. Construct line segments whose lengths are:

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



**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?



**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)

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.



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

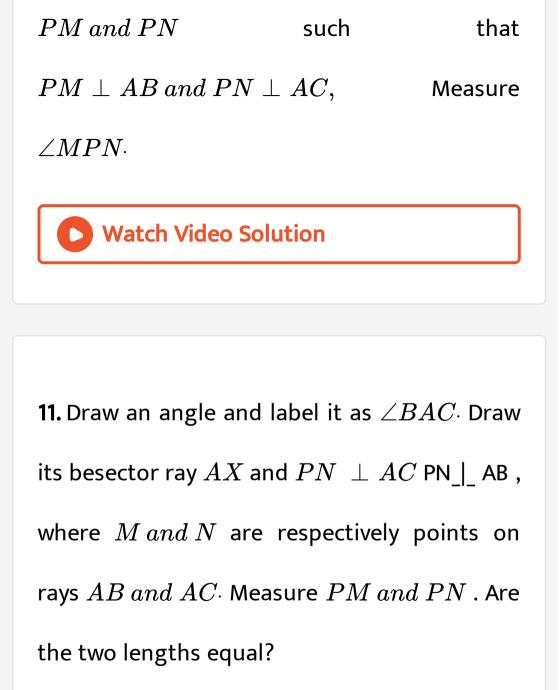
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8. Using a protractor, draw  $\angle BAC$  of measure  $70^{0}$ . On side AC, take a point P, such that AP = 2cm. From P draw a line perpendicular to AB.

**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



12. Draw a line segment of length 6.6cm. Bisect

it and measure the length of each part.



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



14. Draw a line segment of length 8.6cm. Bisect

it and measure the length of each part.



**15.** Draw a line segment AB of length 5. 8cm.

Draw the perpendicular beisector of this line

segment.

**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?



**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?



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



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



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

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

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  $96^{0}$ .

**25.** Draw an angle and label it as  $\angle BAC$ . Construct another angle, equal to  $\angle BAC$ . Watch Video Solution

26. Draw an obtuse angle. Bisect it. Measure

each of the angles so obtained.



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



28. Using protractor, draw a right angle. Bisect

it to get an angle of measure  $45^{0}$ .



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



**30.** Draw a pair of vertically opposite angles.

Bisect each of the two angles. Verify that the

bisecting rays are in the same line.



31. Using ruler and compasses only, draw a

right angle.



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

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



#### **34.** Construct an angle of $60^0$ with the help of

compasses and bisect it by paper folding.



**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)  $105^0$ 



#### 36. Construct a rectangle whose adjacent sides

are 8cm and 3cm.

