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India's Number 1 Education App

## MATHS

## BOOKS - BAL BHARTI

## GEOMETRIC CONSTRUCTIONS

Example

1. $\triangle A B C-\triangle P Q R$, in $\triangle A B C$, $\mathrm{AB}-5.4$
$\mathrm{cm}, \mathrm{BC}=4.2 \mathrm{~cm}, \mathrm{AC}=6.0 \mathrm{~cm}, \mathrm{AB}: \mathrm{PQ}=3: 2$

Construct $\triangle A B C$ and $\triangle P Q R$
2. Construct $\delta \mathrm{ABC}$ such that $m \angle A=55^{\circ}$
$m \angle B=60^{\circ}$ and $\mathrm{I}(\mathrm{AB})=5.9 \mathrm{~cm}$.


Rough figure
3. If the radius of a circle is 21 cm then area of the circle is

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4. Construct a parallelogram $A B C D$ such that
$l(B C)=7 \mathrm{~cm}$,
$m \angle A B C=40^{\circ}, l(A B)=3 \mathrm{~cm}$.
5. Draw $\triangle A B C, \mathrm{AB}=3 \quad \mathrm{~cm}, \mathrm{BC}=4 \quad \mathrm{~cm}, \mathrm{AC}=5$ cm , measure $\angle B$.

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2. Construct $\Delta P Q R$ such that $I(P Q)=7 \mathrm{~cm}, I$
$(Q R)=8 \mathrm{~cm}$ and $I(P R)=9 \mathrm{~cm}$.

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3. In $\Delta \mathrm{LMN}, \mathrm{I}(\mathrm{LM})=6.2 \mathrm{~cm} . m \angle \mathrm{LMN}=60^{\circ}$, I
$(\mathrm{MN})=4 \mathrm{~cm}$. Construct $\Delta \mathrm{LMN}$.

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4. $\operatorname{In} \Delta \mathrm{LMN}, \mathrm{I}(\mathrm{LM})=6.2 \mathrm{~cm} . m \angle \mathrm{LMN}=60^{\circ}$, I
$(\mathrm{MN})=4 \mathrm{~cm}$. Construct $\Delta \mathrm{LMN}$.
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5. Solve the following questions : (Any2 ) (1) Draw a circle with centre P and radius 3.5 cm . Take a point A on it. Draw a tangent at point A.

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2. Draw a circle of radius 2.7 cm.Draw a tangent to the circle at any point on it.
3. Draw a circle of radius 2.7 cm.Draw a tangent to the circle at any point on it.

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4. Draw a circle of radius 3.3 cm .Draw a chord

PQ of length 6.6 cm . Draw tangents to the circle at points $P$ and Q. Write your observation about the tangents.
5. Draw a circle with radius 3.4 cm.Draw a chord MN of length 5.7 cm in it.Construct tangent at point M and N to the circle.

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6. Draw a circle of radius 2.9 cm . Draw a tangent at point $P$ on the circle.

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## 7. Draw a circle of radius 2.7 cm.Draw a tangent

 to the circle at any point on it.
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## Problem Set 4 M C Q

1. The number of tangents that can be drawn to a circle at a point on the circle is.....a)3 b)2
c) 1 d) 0
A. 3
B. 2
C. 1
D. 0

## Answer:

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2. The maximum number of tangents that can
be drawn to a circle from a point outside it is...........a)2 b)1 c) one and only one d)0
A. 2
B. 1
C. one and only one
D. 0

Answer:

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3. In $\Delta X Y Z, X Y=4 \mathrm{~cm}, Y Z=6 \mathrm{~cm}, X Z=5 \mathrm{~cm}$.

If $\triangle X Y Z \sim \Delta P Q R$ and $P Q=8 \mathrm{~cm}$, then find
the length of remaining sides of $\triangle P Q R$.
A. $\triangle A B C$ is bigger

B. $\triangle P Q R$ is bigger

C. Both triangles will be equal
D. Can not be decided.

Answer:

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1. Draw a circle of radius 2.9 cm . Draw a tangent at point $P$ on the circle.

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2. Draw a circle with radius 3.4 cm.Draw a chord MN of length 5.7 cm in it.Construct tangent at point M and N to the circle.

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3. Draw a circle of diameter 7 cm . Take a point
$M$ at a distance of 10 cm from its center.

Construct a pair of tangents from the point $M$ to the circle.

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4. Draw a circle of radius 3.3 cm .Draw a chord

PQ of length 6.6 cm .Draw tangents to the circle at points P and Q . Write your observation about the tangents.
5. Draw a tangent to a circle of radius 3 cm and centre' O ' at any point ' K ' on the circle.

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6. In $\triangle A B C, \angle A=76^{\circ}, \angle B=48^{\circ}$, then
$\angle C=$
7. Construct $\Delta$ PQR such that $I(P Q)=7 \mathrm{~cm}, I$

$$
(Q R)=8 \mathrm{~cm} \text { and } \mathrm{I}(P R)=9 \mathrm{~cm} .
$$

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