



MATHS

BOOKS - TARGET MATHS (HINGLISH)

GEOMETRIC CONSTRUCTIONS

Examples

1. To divide a line segment in a given ratio.

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2. $\triangle ABC \sim \triangle PQR$. In $\triangle ABC$, $AB=3.6$ cm, $BC=4$ cm and $AC=4.2$ cm.

The corresponding sides of $\triangle ABC$ and $\triangle PQR$ are in the ratio 2:3. Construct $\triangle PQR$ and $\triangle ABC$.



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3. If length of side AB is $\frac{11.6}{3}$ cm, then by dividing the line segment of length 11.6 cm in three equal parts, draw segment AB.



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4. $\triangle LMN \sim \triangle LPQ$. In $\triangle LMN$, $LM=4.2$ cm, $\angle L = 50^\circ$, $LN=3.6$ cm and $\frac{LM}{LP} = \frac{4}{5}$. Construct $\triangle LQP$.



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5. Construct any $\triangle ABC$. Construct $\triangle A'BC'$ such that $AB:A'B=5:3$ and $\triangle ABC \sim \triangle A'BC'$.



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1. $\triangle ABC \sim \triangle LMN$. In $\triangle ABC$, $AB = 5.5\text{ cm}$, $BC = 6\text{ cm}$, $CA = 4.5\text{ cm}$. If $MN = 4.8\text{ cm}$ then construct $\triangle ABC$ and $\triangle LMN$

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2. $\triangle PQR \sim \triangle LTR$. In $\triangle PQR$, $PQ = 4.2\text{ cm}$, $QR = 5.4\text{ cm}$, $PR = 4.8\text{ cm}$. Construct $\triangle PQR$ and $\triangle LTR$, such that $\frac{PQ}{LT} = \frac{3}{4}$.

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3. $\triangle RST \sim \triangle XYZ$. In $\triangle RST$, $RS = 4.5\text{ cm}$, $\angle RST = 40^\circ$, $ST = 5.7\text{ cm}$. Construct $\triangle RST$ and $\triangle XYZ$, such that $\frac{RS}{XY} = \frac{3}{5}$.

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4.

$\triangle AMT \sim \triangle AHE$. In

$\triangle AMT$, $AM = 6.3\text{cm}$, $\angle TAM = 50^\circ$, $AT = 5.6\text{cm}$. $\frac{AM}{AH} = \frac{7}{5}$.

Construct $\triangle AHE$.



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Practice Set 4 2

1. Draw a circle of radius 3.3 cm. Draw diameter PQ. Draw tangents at P and Q. Write observation about the tangents.



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Problem Set 4

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

Answer: C



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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

Answer: A



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3. If $\triangle ABC \sim \triangle PQR$ and $\frac{AB}{PQ} = \frac{7}{5}$, then.....

A. $\triangle ABC$ is bigger

B. $\triangle PQR$ is bigger

C. both triangles will be equal

D. can not be decided

Answer: A



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4.

$\triangle ABC \sim \triangle LBN$. In

$\triangle ABC$, $AB = 5.1\text{cm}$, $\angle B = 40^\circ$, $BC = 4.8\text{cm}$, $\frac{AC}{LN} = \frac{4}{7}$

.Construct $\triangle ABC$ and $\triangle LBN$.



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5. Construct $\triangle PYQ$ such that, $PY=6.3\text{ cm}$, $YQ=7.2\text{ cm}$, $PQ=5.8\text{ cm}$. If

$\frac{YZ}{YQ} = \frac{6}{5}$, then construct $\triangle XYZ$ similar to $\triangle PYQ$.



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Chapter Assessment

1. 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

Answer: A



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2. If $\triangle LMN \sim \triangle HIJ$ and $\frac{LM}{HI} = \frac{2}{3}$, then

- A. $\triangle LMN$ is smaller
- B. $\triangle HIJ$ is smaller

C. both triangles are equal

D. can not be decided

Answer: A



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3. The tangents drawn at the end points of the diameter of a circle will be

A. perpendicular to each other

B. parallel to each other

C. inclined to each other at 45°

D. inclined to each other at 60°

Answer: B



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