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M.Sc. Math
0345-6510779

CHAPTER: 12 (Ist Year).

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APPLICATIONS OF TRIGONOMETRY

SOLUTION OF TRIANGLE:-

A triangle contains six components three sides and three angles. The process of finding unknown components of triangle is called its solution.

EXERCISE: 12.1

Q. Find the values of:

(i) $\sin 53^\circ 40' = 0.8056$ (ii) $\cos 36^\circ 20' = 0.8056$

(iii) $\tan 19^\circ 30' = 0.3541$ (iv) $\cot 33^\circ 50' = 1.4920$

(v) $\cos 42^\circ 38' = 0.7357$ (vi) $\tan 25^\circ 34' = 0.4784$

(vii) $\sin 18^\circ 31' = 0.3176$ (viii) $\cos 52^\circ 13' = 0.6127$

(ix) $\cot 89^\circ 9' = 0.0148$

Q.2 Find the value of θ if

(i) $\sin\theta = 0.5791$

$\Rightarrow \theta = \sin^{-1}(0.5791)$

$\theta = 35^\circ 23'$

(ii) $\cos\theta = 0.9316$

$\theta = \cos^{-1}(0.9316)$

$\theta = 21^\circ 19'$

(iii) $\cos\theta = 0.5257$

$\theta = \cos^{-1}(0.5257)$

$\theta = 58^\circ 17'$

(iv) $\tan\theta = 1.705$

$\theta = \tan^{-1}(1.705)$

$\theta = 59^\circ 36'$

(v) $\tan\theta = 21.943$

$\theta = \tan^{-1}(21.943)$

$\theta = 87^\circ 23'$

(vi) $\sin\theta = 0.5186$

$\theta = \sin^{-1}(0.5186)$

$\theta = 31^\circ 14'$

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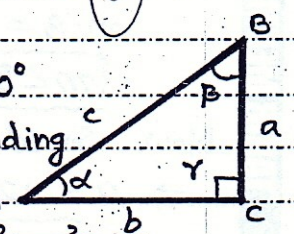
Solution of Right triangle:-

A triangle in which one angle is 90° is called right triangle and the process of finding its solution is called solution of right triangle.



* If any two sides are given then firstly use $c^2 = a^2 + b^2$
* If any two angles are given then firstly use $\alpha + \beta + \gamma = 180^\circ$ to solve the triangle.

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