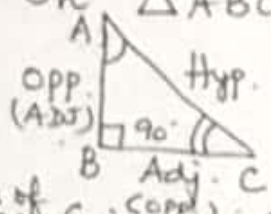


Chapter 8 - Trigonometry - Assignment 1.

Std. X: In ΔABC , $\angle B = 90^\circ$.



ABC is a Right triangle. $\angle A$ and $\angle C$ are acute angles.

t-ratios of $\angle C$:

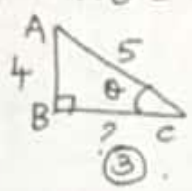
$$\sin c = \frac{AB}{AC}; \text{Cosec } c = \frac{1}{\sin c}$$

$$\cos c = \frac{BC}{AC}; \text{Sec } c = \frac{1}{\cos c}$$

$$\tan c = \frac{AB}{BC}; \text{Cot } c = \frac{1}{\tan c}$$

Why we can find t-ratios for $\angle A$ also.

Example: If $\sin \theta = \frac{4}{5}$ find all the t-ratios of θ .



In Rt ΔABC , by Py. thm, $BC = \sqrt{5^2 - 4^2} = \sqrt{9} = 3$.

$$\therefore \sin \theta = \frac{4}{5}; \cos \theta = \frac{3}{5}; \tan \theta = \frac{4}{3};$$

$$\text{Cosec } \theta = \frac{5}{4}; \text{Sec } \theta = \frac{5}{3}; \text{Cot } \theta = \frac{3}{4}.$$

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| <p>① If $\sin \theta = \frac{\sqrt{3}}{2}$, find all the t-ratios of θ.</p> <p>② If $\cos \theta = \frac{7}{25}$, find all the t-ratios of θ.</p> <p>③ If $\tan \theta = \frac{15}{8}$, find all the t-ratios of θ.</p> <p>④ If $\text{Cosec } \theta = \sqrt{10}$ find all the t-ratios of θ.</p> <p>⑤ If $\tan \theta = \frac{4}{3}$ then show that $\sin \theta + \cos \theta = \frac{7}{5}$.</p> <p>⑥ If $\text{Sec } \theta = \frac{5}{4}$ then find the value of $\frac{\sin \theta - 2 \cos \theta}{\tan \theta - \text{Cot } \theta} = \frac{-12}{7}$.</p> | <p>⑦ If $4 \cos \theta = 11 \sin \theta$ then find the value of $\frac{11 \cos \theta - 7 \sin \theta}{11 \cos \theta + 7 \sin \theta}$.</p> <p>⑧ If $\tan \theta = \frac{1}{\sqrt{5}}$ then Evaluate: $\frac{\text{Cosec}^2 \theta - \text{Sec}^2 \theta}{\text{Cosec}^2 \theta + \text{Sec}^2 \theta}$. Also verify $\sin^2 \theta + \cos^2 \theta = 1$.</p> <p>⑨ If $4 \sin \theta = 3$, then find the value of $\sqrt{\frac{\text{Cosec}^2 \theta - \text{Cot}^2 \theta}{\text{Sec}^2 \theta - 1}}$.</p> <p>⑩ If $\cos \theta = 0.6$, then find the value of $5 \sin \theta - 3 \tan \theta$.</p> <p>⑪ In a ΔABC, $\angle B = 90^\circ$; $AB = 24 \text{ cm}$; $BC = 7 \text{ cm}$ find $\sin A$; $\cos A$; $\sin C$; $\text{Cosec } C$.</p> <p>⑫ If $\sin \theta = \frac{4}{5}$, find $\frac{\sin \theta \cdot \tan \theta - 1}{2 \tan^2 \theta}$.</p> |
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