Unit

6 Trigonometry

Sr. No.	Questions	A	В	С	D
1	The value of $tan^{-1} 2$ in radians is:	$\frac{\pi}{2}$	$\frac{3\pi}{2}$	1.11π	1.11✓
2	In a right triangle, the hypotenuse is 13 units and one of the angles is $\theta=30^\circ$. The length of the opposite side is:	6.5 units√	7.5 units	6 units	5 units
3	A person standing $50 m$ away from a building sees the top of the building at an angle of elevation of 45° . Height of the building is:	50 m√	25 m	35 m	70 m
4	$\sec^2\theta - \tan^2\theta = $	$\sin^2 \theta$	1✓	$\cos^2 \theta$	$\cot^2 \theta$
5	If $\sin \theta = \frac{3}{5}$ and θ is an acute angle, then $\cos^2 \theta =$	7 25	24 25	$\frac{16}{25}$	4 25
6	$\left(\frac{5\pi}{24}\right) rad = $ degrees.	30°	37.5°✓	45°	52.5°
7	292.5° =rad.	$\frac{17\pi}{6}$	$\frac{17\pi}{4}$	1.6π	1.625π✓
/lu	Which of the following is a valid identity?	$\cos\left(\frac{\mathbf{E} \cdot \mathbf{\theta}}{2}\right) = \sin \theta \checkmark$	$ \begin{array}{l} \mathbf{G} \cos \left(\frac{\pi}{2} - \theta \right) \mathbf{h} \\ = \cos \theta \end{array} $	$ris_{\frac{\pi}{2}} = \sec \theta$	$ \begin{array}{c} $
9	$\sin 60^{\circ} = \underline{\qquad}.$	1	$\frac{1}{2}$	$\sqrt{(3)^2}$	$\frac{\sqrt{3}}{2}$
10	$\cos^2(100\pi) + \\ \sin^2(100\pi) =$	1√	2	3	4

Solution of MCQs

1	Use calculator.
2	$\sin 30^{\circ} = \frac{opposite \ or \ perp.}{hyp}$ $\Rightarrow opposite = hyp. \times \sin 30^{\circ}$ $= 13 \times 0.5$
	= 6.5
3	$\tan 45^{\circ} = \frac{perp}{base}$ $\Rightarrow perp = base \times \tan 45^{\circ}$
J	$=50\times1$
1	
4	

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	$\sin^2 \theta + \cos^2 \theta = 1$ $\cos^2 \theta = 1 - \sin^2 \theta$			
	$=1-\left(\frac{3}{5}\right)^{2}$			
5	$= 1 - \frac{5}{25} \\ 25 - 9$			
	$= \frac{23 - 9}{25} \\ $			
	$=\frac{1}{25}$			
6	$\left(\frac{5\pi}{24}\right)rad = \left(\frac{5\pi}{24} \times \frac{180}{\pi}\right)^{\circ} = 37.5^{\circ}$			
7	$292.5^{\circ} = \left(292.5 \times \frac{\pi}{180}\right) rad = \frac{13\pi}{8} = 1.625\pi$			
8	$\cos\left(\frac{\pi}{2} - \theta\right) = \sin\theta$			
9	Use calculator.			
10	$\sin^2 heta + \cos^2 heta = 1$ Pythagorean identity for any $ heta$			

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