Sr. No.	Questions	A	B	C	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 $\cos^2\theta =$	$\frac{7}{25}$	$\frac{24}{25}$	$\frac{16}{25}$✓	$\frac{4}{25}$
6	$\left(\frac{5\pi}{24}\right) rad =$___ degrees.	30°	37.5°✓	45°	52.5°
7	$292.5^\circ =$ _____ $rad.$	$\frac{17\pi}{6}$	$\frac{17\pi}{4}$	1.6π	1.625π✓
8	Which of the following is a valid identity?	$\cos\left(\frac{\pi}{2}-\theta\right) = \sin\theta$✓	$\cos\left(\frac{\pi}{2}-\theta\right) = \cos\theta$	$\cos\left(\frac{\pi}{2}-\theta\right) = \sec\theta$	$\cos\left(\frac{\pi}{2}-\theta\right) = \csc\theta$
9	$\text{Sin}\,60^\circ =$ _____.	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	$\tan 45^\circ = \frac{perp}{base}$ $\Rightarrow perp = base \times \tan 45^\circ$ $= 50 \times 1$ $height = 50$
4	$1 + \tan^2\theta = \sec^2\theta \Rightarrow \sec^2\theta - \tan^2\theta = 1$

5	$\sin^2\theta + \cos^2\theta = 1$ $\cos^2\theta = 1 - \sin^2\theta$ $= 1 - \left(\frac{3}{5}\right)^2$ $= 1 - \frac{9}{25}$ $= \frac{25-9}{25}$ $= \frac{16}{25}$
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	$\sin^2\theta + \cos^2\theta = 1$ Pythagorean identity for any θ