

1. Angle θ is in the second quadrant and $\sin \theta = \frac{3}{5}$. What is the value of $\tan \theta$?
 - A. $\frac{4}{3}$
 - B. $\frac{3}{4}$
 - C. $-\frac{4}{3}$
 - D. $-\frac{3}{4}$
 - E. $-\frac{5}{4}$
2. Consider the following statements:
 - (1) $\sin 30^\circ = \frac{1}{2}$
 - (2) $\cos 45^\circ = \frac{\sqrt{3}}{2}$
 - (3) $\tan 60^\circ = \sqrt{3}$
 - (4) $\sin 90^\circ = 1$
 - (5) $\cos 0^\circ = 0$
 Select all correct statements.
 - A. 1
 - B. 2
 - C. 3
 - D. 4
 - E. 5
3. If $\sin x = \frac{1}{2}$ and $0^\circ \leq x \leq 180^\circ$, then the value of $x = \dots$
4. The following trigonometric identity is true or false: $\sin^2 x + \cos^2 x = 1$

Match the angles with their corresponding trigonometric values.

	Degree	Trigonometric Values
5.	A. 0	A. 1
6.	B. 90	B. $\frac{1}{2}$
7.	C. 30	C. 0
8.	D. 60	D. $\frac{\sqrt{3}}{2}$
9.	E. 45	E. $\frac{\sqrt{2}}{2}$

10. A tower is observed from two points on the ground that lie along a straight line with the tower. The angle of elevation from point A to the top of the tower is 30° , and from point B (which is 40 meters closer to the tower) the angle of elevation is 45° . Calculate the height of the tower and explain your steps in detail.