Quiz17, MAT 1375 Professor Chiu

ID:_____ Name:_____

- This quiz consists of 2 sets of questions for a total of 10 points.
- You have 15 minutes to complete the quiz.
- Scientific calculators are allowed.
- Wishing you success.

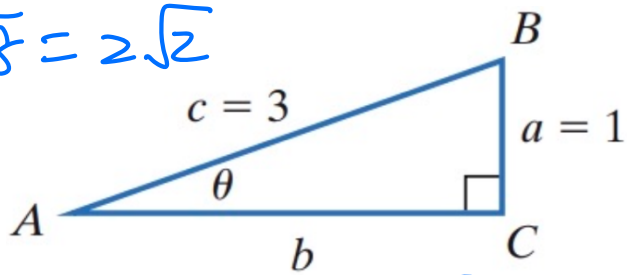
True or False questions:

1. T The radian of a center angle of a circle is the ratio of the length of the intercept arc with the circle radius.
2. T The full rotation of a center angle measures as 2π in radian. $360^\circ = 2\pi$
3. T $\sin(45^\circ) = \frac{\sqrt{2}}{2}$.
4. F $\cos\left(\frac{\pi}{6}\right) = \frac{1}{2}$. $\cos\left(\frac{\pi}{6}\right) = \frac{\sqrt{3}}{2}$ or $\sin\left(\frac{\pi}{6}\right) = \frac{1}{2}$
5. T $\cos(0) = 1$.

Show all your work and justify your answer:

6. Given the right triangles with the length of side a and c. Find $\sin(\theta)$, $\cos(\theta)$, $\tan(\theta)$, $\cot(\theta)$, $\sec(\theta)$, and $\csc(\theta)$.

$b^2 = c^2 - a^2 = 9 - 1 = 8. \Rightarrow b = \sqrt{8} = 2\sqrt{2}$



$\sin(\theta) = \frac{1}{3}$ $\csc(\theta) = \frac{1}{\sin\theta} = 3$

$\cos(\theta) = \frac{2\sqrt{2}}{3}$ $\sec(\theta) = \frac{1}{\cos(\theta)} = \frac{3}{\sqrt{8}} = \frac{3\sqrt{2}}{2\sqrt{2}\cdot\sqrt{2}} = \frac{3\sqrt{2}}{4}$

$\tan(\theta) = \frac{1}{\sqrt{8}} = \frac{1\cdot\sqrt{2}}{2\sqrt{2}\cdot\sqrt{2}} = \frac{\sqrt{2}}{4}$ $\cot(\theta) = \frac{1}{\tan(\theta)} = \sqrt{8} = 2\sqrt{2}$