

NAME: _____ Score _____/10

Please **print** your name

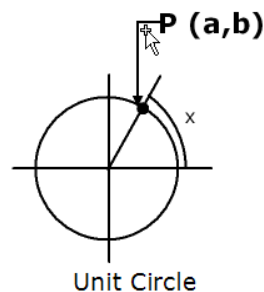
You must show your work in order to receive credit.

Some unit circles are provided. Use them if they help you analyze the question

1. Refer to the diagram of the unit circle shown at the right.

Express each of the following in terms of a and b.

$$\sin(x) = \mathbf{b} \qquad \cos(x) = \mathbf{a} \qquad \tan(x) = \frac{\mathbf{b}}{\mathbf{a}}$$



2. Express $\tan(x)$, $\cot(x)$, $\sec(x)$, and $\csc(x)$ in terms of $\sin(x)$ and/or $\cos(x)$

$$\tan(x) = \frac{\sin(x)}{\cos(x)} \qquad \cot = \frac{\cos(x)}{\sin(x)} \qquad \csc(x) = \frac{1}{\sin(x)} \qquad \sec(x) = \frac{1}{\cos(x)}$$

3. Complete each of the following Pythagorean identities.

$$\sin^2(x) = \mathbf{1 - \cos^2(x)}$$

$$\sec^2(x) = \mathbf{1 + \tan^2(x)}$$

4. Complete the following identities for negatives.

$$\sin(-x) = \mathbf{-\sin(x)}$$

$$\cos(-x) = \mathbf{\cos(x)}$$

5. What is the domain of \sin ? **The domain of \sin is the set of real numbers.**