

Name _____ Score _____/10

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

$$\tan(x) = \frac{\sin(x)}{\cos(x)}$$

$$\cot(x) = \frac{\cos(x)}{\sin(x)}$$

$$\sec(x) = \frac{1}{\cos(x)}$$

$$\csc(x) = \frac{1}{\sin(x)}$$

2. Write the double-angle identity for the sine, and cosine functions.

$$\sin(2x) = 2\sin(x)\cos(x)$$

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

2. Complete each of the following Pythagorean identities.

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

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

3. Complete the following identities for negatives.

$$\sin(-x) = -\sin(x)$$

$$\cos(-x) = \cos(x)$$