

Name: _____
PC: More Practice with Trig Identities

Date: _____
Ms. Loughran

- 1) Express $\frac{\sec \theta}{\tan \theta}$ as a single trigonometric function.
- 2) For all values of θ for which the expressions are defined, $\sec \theta - \tan \theta$ is equivalent to
 - A) $\frac{1 - \sin \theta}{\cos \theta}$
 - B) 1
 - C) $\cos \theta - \cot \theta$
 - D) $\frac{\cos \theta - \sin^2 \theta}{\sin \theta \cos \theta}$
- 3) If $\sin \theta = \frac{2}{3}$ and θ is in Quadrant I, what is the value of $(\tan \theta)(\cos \theta)$?
 - A) $\frac{2}{3}$
 - B) $\frac{3\sqrt{5}}{5}$
 - C) $\frac{\sqrt{5}}{3}$
 - D) $\frac{2\sqrt{5}}{3}$
- 4) The expression $\frac{\sin x \cdot \cos x}{\tan x}$ is equivalent to
 - A) 1
 - B) $\cos^2 x$
 - C) $\sin^2 x$
 - D) $\cos x$
- 5) For all values of x for which the expression is defined, $\sec x \cdot \csc x \cdot \cos x$ is equivalent to
 - A) $\frac{1}{\sin x}$
 - B) $\tan x$
 - C) $\sin x$
 - D) $\frac{1}{\cos x}$
- 6) The expression $\frac{\sin^2 \theta + \cos^2 \theta}{\sin \theta}$ is equivalent to
 - A) $\sin \theta \cot \theta$
 - B) $\csc \theta$
 - C) $\sec \theta$
 - D) $\sin \theta \cos \theta \cot \theta$
- 7) Transform $\csc \theta \cos \theta$ into an equivalent expression in terms of the trigonometric function $\tan \theta$.
- 8) The expression $\frac{\cot \theta}{\csc \theta}$ is equivalent to
 - A) $\frac{\cos \theta}{\sin^2 \theta}$
 - B) $\sin \theta$
 - C) $\cos \theta$
 - D) $\tan \theta$
- 9) The expression $(\tan \theta)(\csc \theta)$ is equivalent to
 - A) $\sec \theta$
 - B) $\csc \theta \cot \theta$
 - C) $\csc \theta$
 - D) $\cos \theta$
- 10) Transform $\frac{\sin \theta}{\tan \theta}$ into an equivalent expression in terms of the trigonometric function $\cos \theta$.
- 11) Express $\frac{1}{1 + \cot^2 \theta}$ as a single trigonometric function.
- 12) Express $\csc^2 \theta - \cot^2 \theta - \sin^2 \theta$ as a single trigonometric function.
- 13) The expression $\sec^2 \theta + \csc^2 \theta$ is equivalent to
 - A) $1 + \tan^2 \theta$
 - B) $1 - \tan^2 \theta$
 - C) $\sin^2 \theta \cos^2 \theta$
 - D) $\frac{1}{\sin^2 \theta \cos^2 \theta}$

- 14) $\log(\cot \theta)$ is equivalent to
 A) $\log(\sin \theta) - \log(\cos \theta)$
 B) $\log(\sin \theta) + \log(\cos \theta)$
 C) $\log(\cos \theta) + \log(\sin \theta)$
 D) $\log(\cos \theta) - \log(\sin \theta)$
- 15) Express $\sec \theta + \sec \theta \tan^2 \theta$ as a single trigonometric function.
- 16) The expression $\sin^2 x + \cos^2 x - b^2$ is equivalent to
 A) $(1+b)(1-b)$
 B) b^2
 C) 1
 D) $\sin x \cos x - b$
- 17) The expression $\cos \theta (\sec \theta - \cos \theta)$ is equivalent to
 A) $\sin \theta$
 B) 1
 C) $-\cos^2 \theta$
 D) $\sin^2 \theta$
- 18) The expression $\frac{\sec \theta}{\tan \theta}$ is equivalent to
 A) $\sin \theta$
 B) $\cos \theta$
 C) $\sec \theta$
 D) $\csc \theta$
- 19) Express $\sec \theta \tan \theta \sin \theta$ as a single trigonometric function.
- 20) The expression $\frac{\sin^2 x + \cos^2 x}{\cos x}$ is equivalent to
 A) $\sec x$
 B) $\sin x \cdot \cos x \cdot \tan x$
 C) $\csc x$
 D) $\cos x \cdot \tan x$
- 21) The expression $(\cos \alpha)(\csc \alpha - \sec \alpha)$ is equivalent to
 A) $\cot \alpha - 1$
 B) $\tan \alpha - 1$
 C) $-\cos \alpha$
 D) $1 - \tan \alpha$
- 22) For all values of θ for which the expression is defined, $\frac{\sec \theta}{\csc \theta}$ is equivalent to
 A) $\sin \theta$
 B) $\cot \theta$
 C) $\tan \theta$
 D) $\cos \theta$
- 23) The expression $\frac{1 - \sin^2 A}{2 \cos A}$ is equivalent to
 A) $\cos \frac{1}{2}A$
 B) $2 \cos A$
 C) $\frac{\cos A}{2}$
 D) $\frac{\sin A}{2}$
- 24) The expression $\sin \theta (\cot \theta - \csc \theta)$ is equivalent to
 A) $\cos \theta - \sin^2 \theta$
 B) $2 \cos \theta$
 C) $-\sin \theta$
 D) $\cos \theta - 1$
- 25) Express $\frac{\sin \theta \cdot \csc \theta}{\cot \theta}$ as a single trigonometric function.
- 26) Simplify: $\tan^2 \theta \cos^2 \theta + \cos^2 \theta$
 A) $\cos^4 \theta$
 B) $\sin^2 \theta$
 C) $2 \cos^2 \theta$
 D) 1
- 27) If $\sin A = k$, then the value of the expression $(\sin A)(\cos A)(\tan A)$ is equivalent to
 A) 1
 B) $\frac{1}{k}$
 C) k
 D) k^2
- 28) Express $(1 + \sin \theta)(1 - \sin \theta)$ in terms of $\cos \theta$.
- 29) The expression $\frac{\sin^2 A}{\tan A}$ is equivalent to
 A) $\frac{\sin A}{\cos A}$
 B) $\frac{\cos A}{\sin A}$
 C) $\sin A \cos A$
 D) $\frac{1}{\sin A \cos A}$

- 30) Express $\frac{\cos \theta}{\cot \theta}$ as a single trigonometric function.
- 31) The expression $\frac{\tan \theta}{\sec \theta}$ is equivalent to
 A) $\csc \theta$ B) $\cos \theta$ C) $\cot \theta$ D) $\sin \theta$
- 32) For all values of A for which the expression is defined, $\frac{\cot A}{\csc A}$ is equivalent to
 A) $\sin A$ B) $\frac{1}{\cos A}$ C) $\cos A$ D) $\frac{1}{\sin A}$
- 33) Express $\tan \theta \cot \theta \sec \theta$ as a single trigonometric function.
- 34) Express $\cos^2 \theta + \sin^2 \theta + \tan^2 \theta$ as a single trigonometric function.
- 35) Express $1 - \sin^2 \theta + \cos^2 \theta$ as a single trigonometric function.
- 36) For which value of x is $f(x) = \frac{\sin x}{\cos x}$ undefined?
 A) $\frac{\pi}{2}$ B) π C) 0 D) $\frac{\pi}{4}$
- 37) Express $\frac{1}{\tan^2 \theta \cos^2 \theta}$ as a single trigonometric function.
- 38) Express $\cos \theta \csc \theta$ as a single trigonometric function.
- 39) Express $\csc \theta - \cot \theta \cos \theta$ as a single trigonometric function.
- 40) For all values of θ for which the expression is defined, $\frac{\sin \theta}{\tan \theta}$ is equivalent to
 A) $\csc \theta$ B) $\sec \theta$ C) $\tan \theta$ D) $\cos \theta$
- 41) The expression $\frac{\sin^2 B}{\cos B} + \cos B$ is equivalent to
 A) $\frac{1}{\sec B}$ B) 1 C) $\sin^2 B$ D) $\frac{1}{\cos B}$
- 42) Express $1 - \cos^2 \theta$ as a single trigonometric function.
- 43) Express $\frac{\cos^2 \theta}{1 - \cos^2 \theta}$ as a single trigonometric function.
- 44) Expressed in simplest form, $\csc \theta \cdot \tan \theta \cdot \cos \theta$ is equivalent to
 A) $\tan \theta$ B) $\cos \theta$ C) 1 D) $\sin \theta$