Basic Trigonometric Identities

1. $\sec\theta = \dfrac{1}{\cos\theta}$, $\csc\theta = \dfrac{1}{\sin\theta}$, $\cot\theta = \dfrac{1}{\tan\theta}$.
2. $\tan\theta = \dfrac{\sin\theta}{\cos\theta}$, $\cot\theta = \dfrac{\cos\theta}{\sin\theta}$.
3. $\sin^2\theta + \cos^2\theta = 1$, $1 + \tan^2\theta = \sec^2\theta$, $1 + \cot^2\theta = \csc^2\theta$.

Sum and difference identities

1. $\sin(\theta \pm \phi) = \sin\theta\cos\phi \pm \cos\theta\sin\phi$.
2. $\cos(\theta \pm \phi) = \cos\theta\cos\phi \mp \sin\theta\sin\phi$.

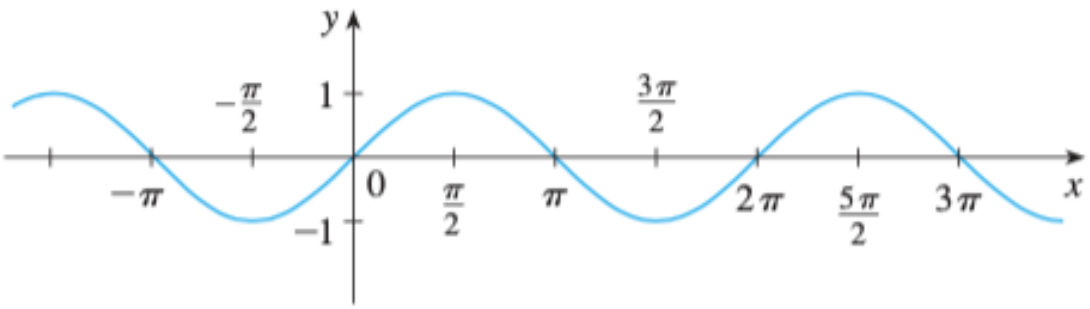
Double-Angle Identities

1. $\sin 2\theta = 2\sin\theta\cos\theta$.
2. $\cos 2\theta = \cos^2\theta - \sin^2\theta = 1 - 2\sin^2\theta = 2\cos^2\theta - 1$.

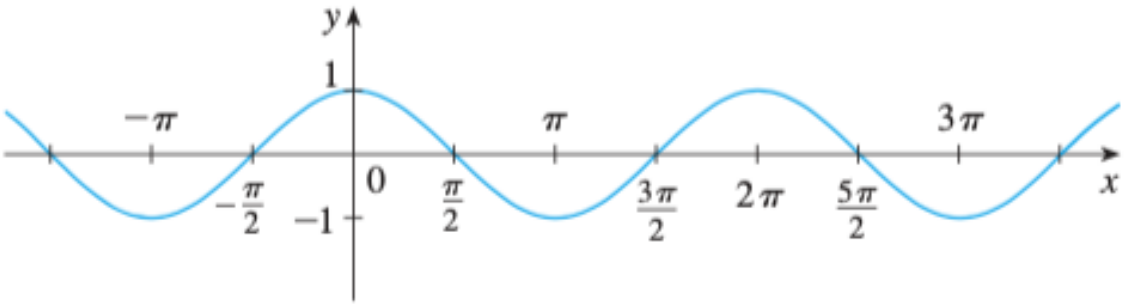
Half-Angle Identities

1. $\sin^2\theta = \dfrac{1}{2}(1 - \cos 2\theta)$.
2. $\cos^2\theta = \dfrac{1}{2}(1 + \cos 2\theta)$.

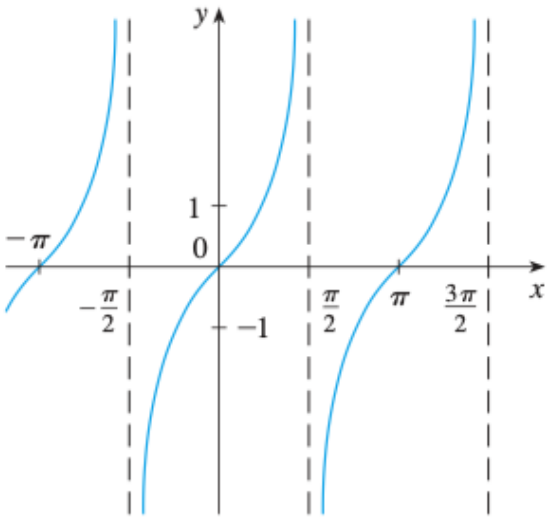
Graphs of trigonometric function



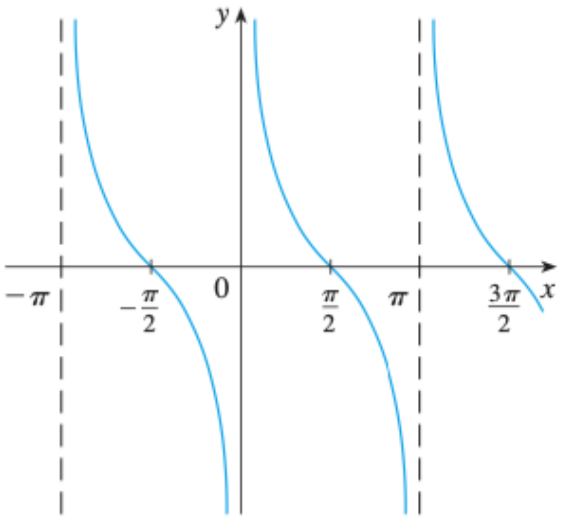
(a) $f(x) = \sin x$



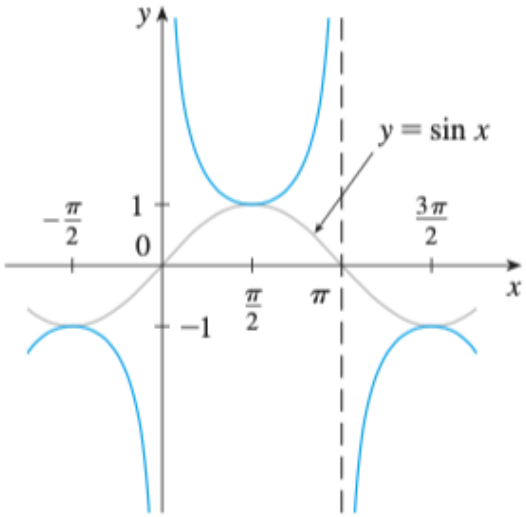
(b) $g(x) = \cos x$



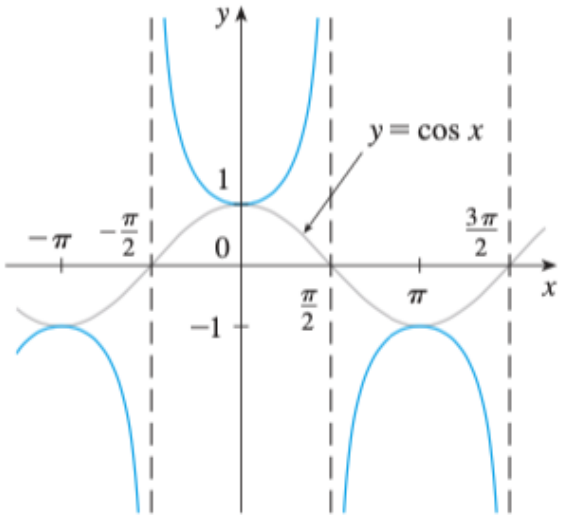
(a) $y = \tan x$



(b) $y = \cot x$



(c) $y = \csc x$



(d) $y = \sec x$