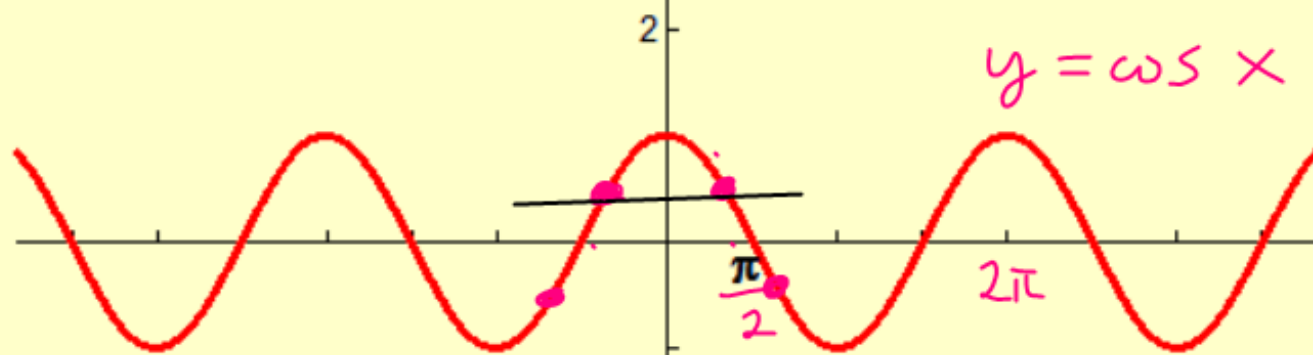
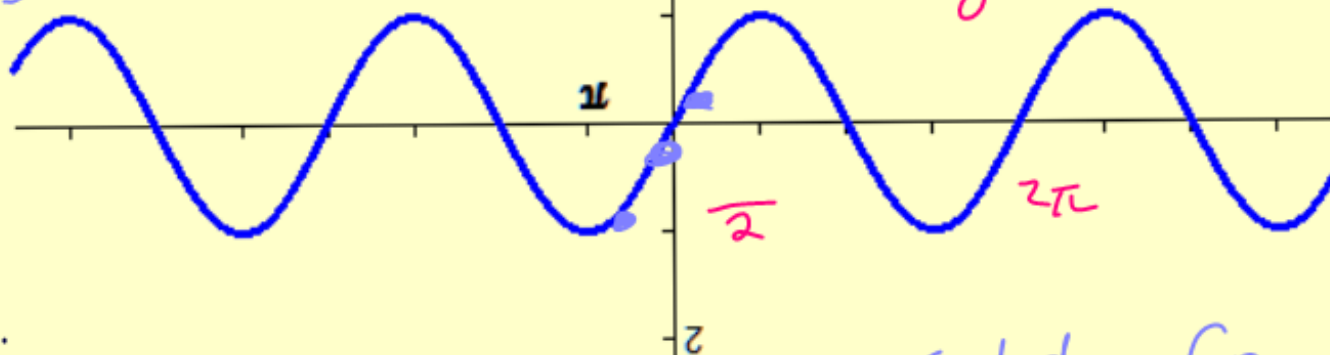


Turn to page 240

even fn. symmetric @ y-axis



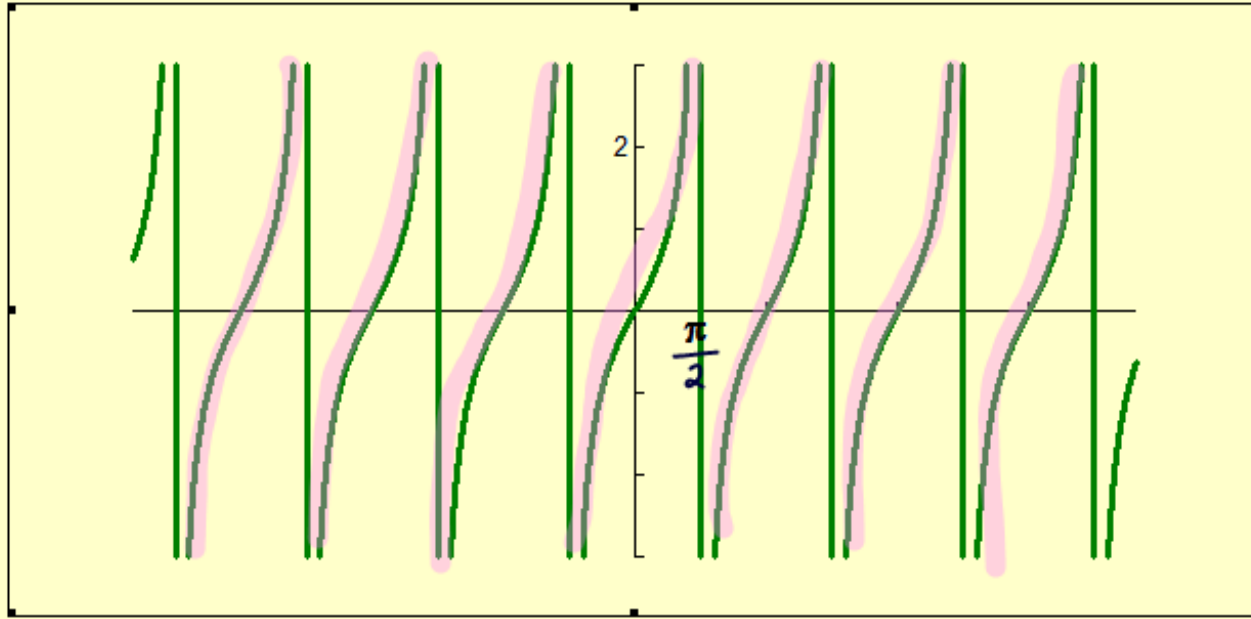
$$\cos(x) = \cos(-x)$$
$$\cos\left(\frac{\pi}{3}\right) = \cos\left(-\frac{\pi}{3}\right)$$



odd fn

$$\sin(-x) = -\sin(x)$$
$$\sin\left(-\frac{\pi}{3}\right) = -\sin\left(\frac{\pi}{3}\right)$$

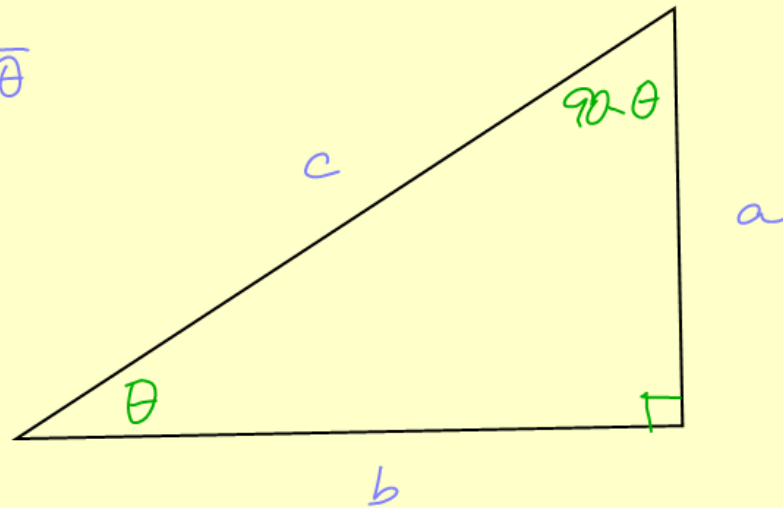
$$y = \tan(x)$$



odd so

$$\tan(-x) = -\tan(x)$$

$$\cos \theta = \frac{1}{\sec \theta}$$



$$\begin{aligned} \cos \theta &= \frac{b}{c} = \sin(90-\theta) \\ \cos \theta &= \sin\left(\frac{\pi}{2}-\theta\right) \end{aligned}$$

$$\begin{aligned} \sin \theta &= \frac{a}{c} = \cos(90-\theta) \\ \sin \theta &= \cos\left(\frac{\pi}{2}-\theta\right) \end{aligned}$$

$$\begin{aligned} \tan \theta &= \frac{a}{b} = \cot(90-\theta) \\ \tan \theta &= \cot\left(\frac{\pi}{2}-\theta\right) \end{aligned}$$

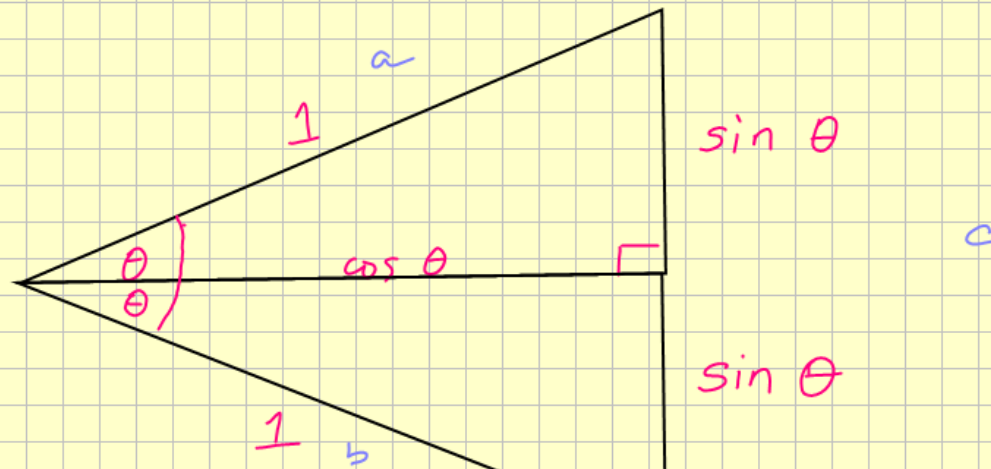
1 radian

π radians ≈ 3.14 radians

$\frac{\pi}{2}$ radians ≈ 1.57 radians

Double Angle Formula for Cosine

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



$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$(2\sin \theta)^2 = 1^2 + 1^2 - 2(1)(1) \cos(2\theta)$$

$$4\sin^2 \theta = 2 - 2\cos(2\theta)$$

$$4\sin^2 \theta - 2 = -2\cos(2\theta)$$

$$-2\sin^2 \theta + 1 = \cos(2\theta)$$

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

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

$$\begin{aligned} &= 1 - 2(1 - \cos^2\theta) \\ &= 1 - 2 + 2\cos^2\theta \\ &= 2\cos^2\theta - 1 \end{aligned}$$

$$\cos(2\theta) = 2\cos^2\theta - 1$$

