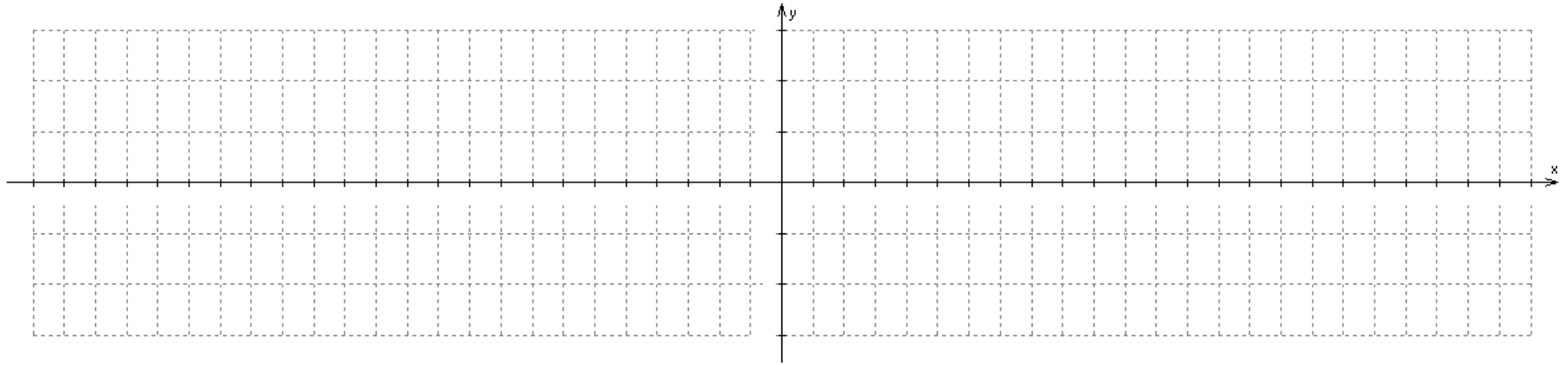


THE GRAPHS OF $y = \sin x$, $y = \cos x$ AND $y = \tan x$

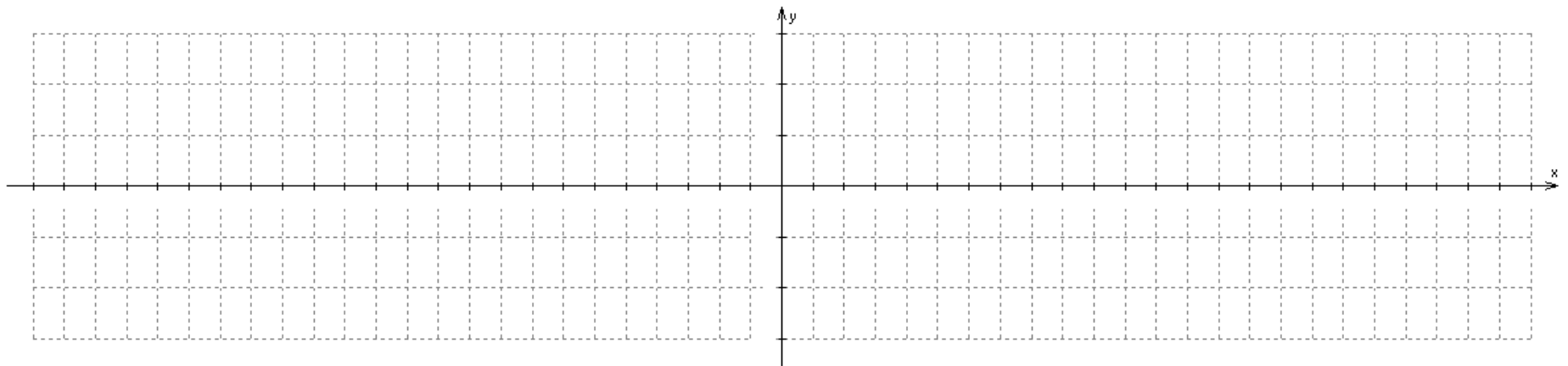
Use the following axes to sketch the graphs of $y = \sin x$ and $y = \cos x$ using **radians** on the x -axis.

- Use increments of $\frac{\pi}{6}$ on the x -axis (you do not need to label every “tick”, but be sure to label all multiples of $\frac{\pi}{2}$).
- Use increments of 0.5 on the y -axis.
- Remember that these graphs continue to the left and right.

$y = \sin x$



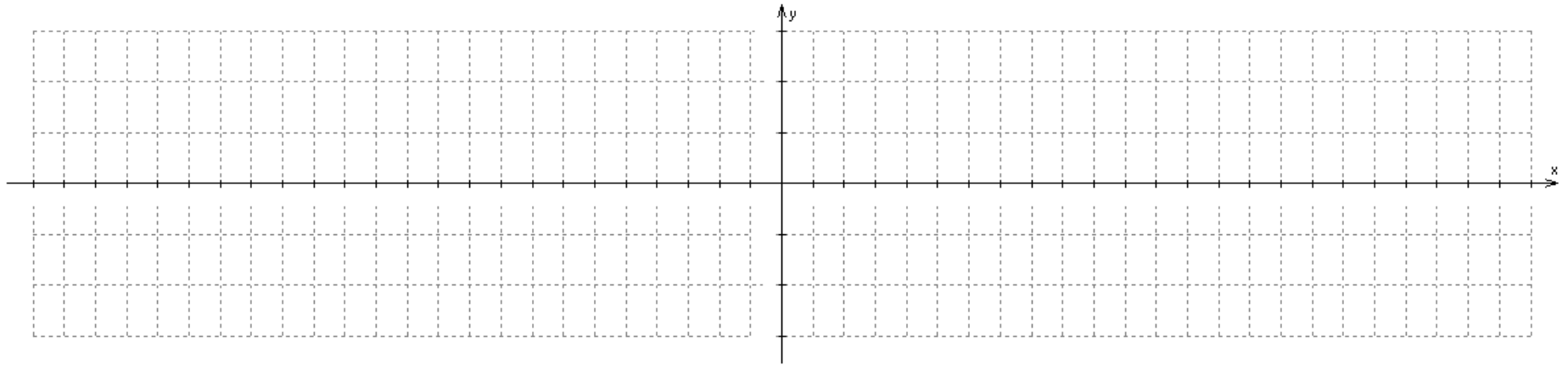
$y = \cos x$



Use the following axes to sketch the graph of $y = \tan x$ using **radians** on the x -axis.

- Use increments of $\frac{\pi}{6}$ on the x -axis (you do not need to label every “tick”, but be sure to label all multiples of $\frac{\pi}{2}$).
- Use increments of 1 on the y -axis.
- Remember that this graph continues to the left and right.

$y = \tan x$



Use your graphs to find the exact value of each of the following.

a) $\sin \frac{\pi}{2}$

b) $\cos 0$

c) $\tan \pi$

d) $\cos(-\pi)$

e) $\sin 0$

f) $\sin \frac{11\pi}{2}$

g) $\cos \left(\frac{13\pi}{2} \right)$

h) $\sin(-6\pi)$

i) $\tan \left(-\frac{9\pi}{2} \right)$

The Analysis

The Properties of $y = \sin x$

Domain: _____

Range: _____

Period: _____

Absolute Maximum Value: _____

Absolute Minimum Value: _____

Local Maximum Values: _____

Local Minimum Values: _____

x -intercepts: _____

y -intercept: _____

Asymptotes: _____

The Properties of $y = \cos x$

Domain: _____

Range: _____

Period: _____

Absolute Maximum Value: _____

Absolute Minimum Value: _____

Local Maximum Values: _____

Local Minimum Values: _____

x -intercepts: _____

y -intercept: _____

Asymptotes: _____

The Properties of $y = \tan x$

Domain: _____

Range: _____

Period: _____

Absolute Maximum Value: _____

Absolute Minimum Value: _____

Local Maximum Values: _____

Local Minimum Values: _____

x -intercepts: _____

y -intercept: _____

Asymptotes: _____