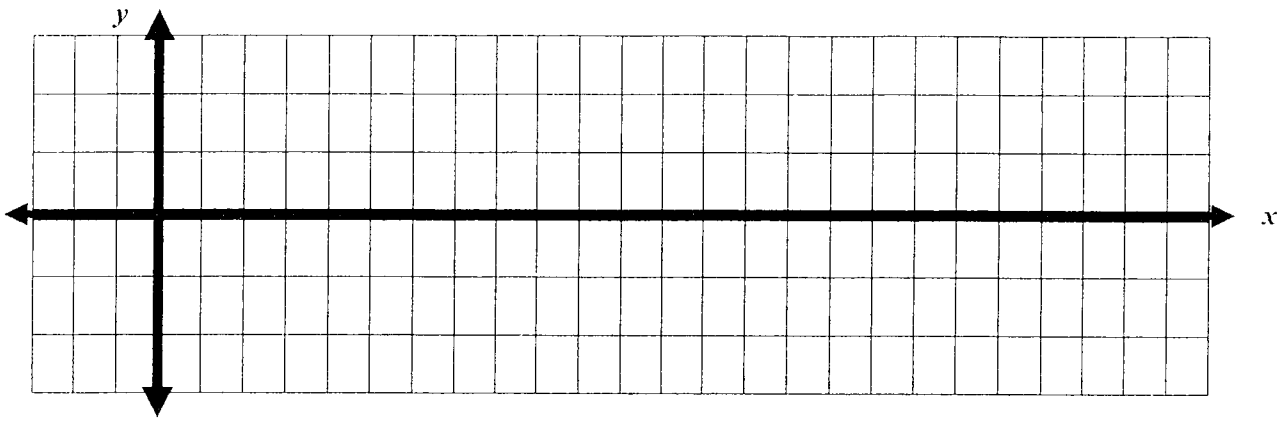
MHF 4U1

Graphs of Sine and Cosine in Radians

x	0	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{5\pi}{6}$	π	$\frac{7\pi}{6}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$	$\frac{5\pi}{3}$	$\frac{11\pi}{6}$	2π
$y = \sin x$	0	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	0
$y = \cos x$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	1

1. Graph $y = \sin x$ for two periods using this table and your knowledge of the sine curve.

   Use x-increments of $\frac{\pi}{6}$ and y-increments of 1. Note: $\frac{\sqrt{3}}{2} = 0.8660$



Identify the Characteristics of $y = \sin x$:

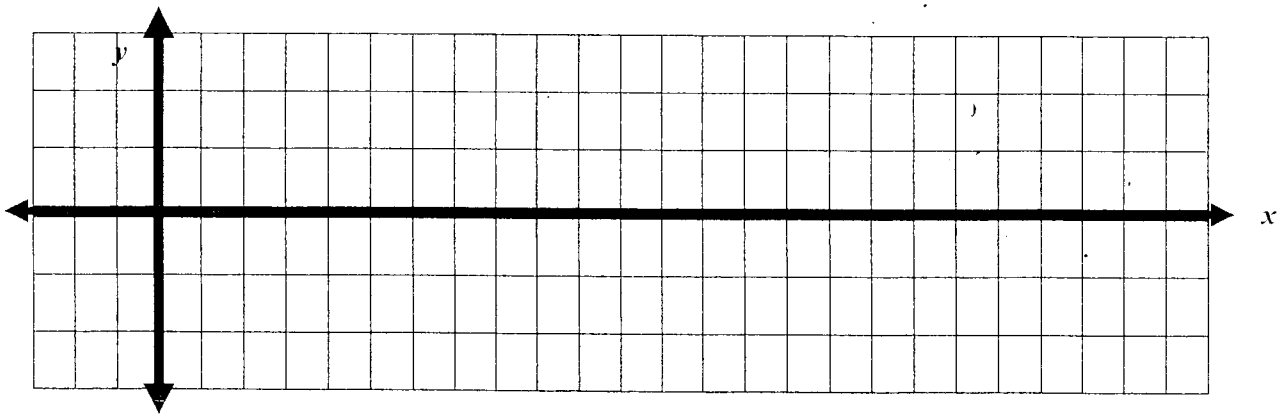
Domain : _____ Range : _____ y intercept: ____

x intercepts (zeros): _____ Even or Odd : _____ ; Therefore $\sin x =$ _____

Overall/local Max. value:____ Overall.local Min. value: _____ Period : _____ (The length of one cycle)

Amplitude : _____ $\frac{(\text{max} - \text{min})}{2}$ Asymptotes : _____

2. Graph $y = \cos x$ for two periods.



Identify the Characteristics of $y = \cos x$:

Domain : _____ Range : _____ y intercept: ____

x intercepts (zeros): _____ Even or Odd : _____ ; Therefore $\cos x =$ _____

Overall/local Max. value:____ Overall.local Min. value: _____ Period : _____ (The length of one cycle)

Amplitude : _____ $\frac{(\text{max} - \text{min})}{2}$ Asymptotes : _____

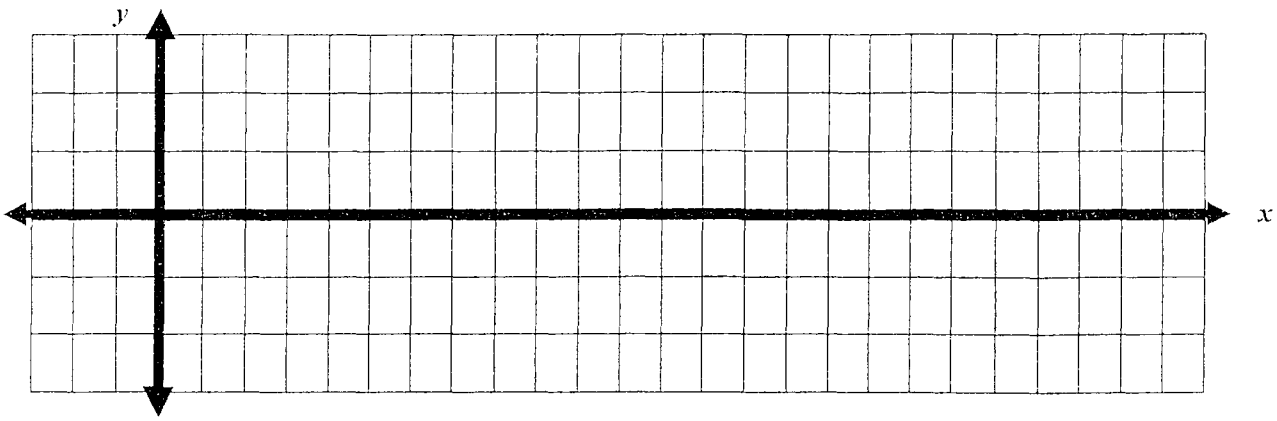
MHF 4U1

Graphs of Tangent

x	0	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{5\pi}{6}$	π	$\frac{7\pi}{6}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$	$\frac{5\pi}{3}$	$\frac{11\pi}{6}$	2π
$y = \tan x$	0	$\frac{1}{\sqrt{3}}$	$\sqrt{3}$	undef.	$-\sqrt{3}$	$-\frac{1}{\sqrt{3}}$	0	$\frac{1}{\sqrt{3}}$	$\sqrt{3}$	undef.	$-\sqrt{3}$	$-\frac{1}{\sqrt{3}}$	0

1. Graph $y = \tan x$ using this table and your knowledge of the sine curve.

   Use x-increments of $\frac{\pi}{6}$ and y-increments of 1. Note: $\sqrt{3} = 1.7320$ and $\frac{1}{\sqrt{3}} = 0.5774$



Identify the Characteristics of $y = \tan x$:

Domain : _____ Range : _____ y intercept: ____

x intercepts (zeros): _____ Even or Odd : _____ ; Therefore $\tan x =$ _____

Overall/local Max. value:____ Overall.local Min. value: _____ Period : _____
(The length of one cycle)

Amplitude : ____ $\frac{(\text{max} - \text{min})}{2}$ Asymptotes : _____