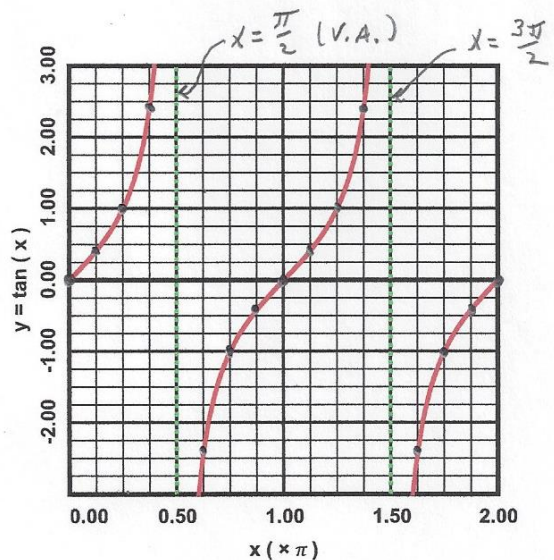
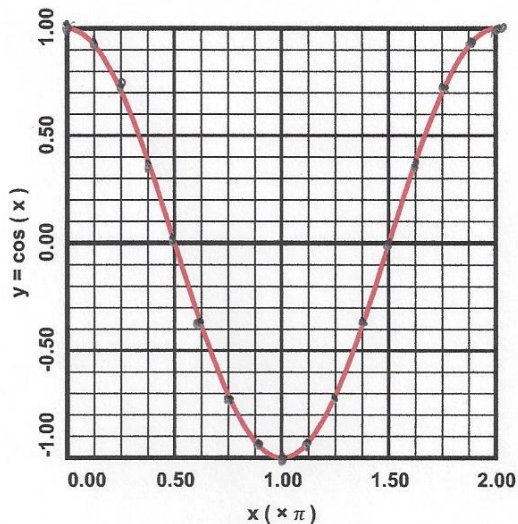
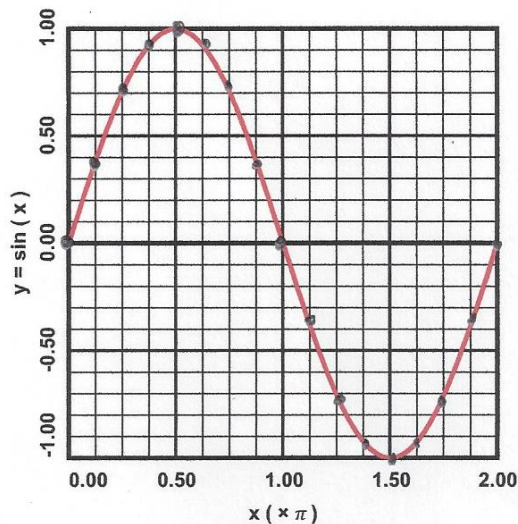


1) Fill in the table.

$x$	$y = \sin x$	$y = \cos x$	$y = \tan x$
0	0	1	0
$\frac{\pi}{8}$	0.383	0.924	0.414
$\frac{\pi}{4}$	0.707	0.707	1
$\frac{3\pi}{8}$	0.924	0.383	2.414
$\frac{\pi}{2}$	1	0	undef.
$\frac{5\pi}{8}$	0.924	-0.383	-2.414
$\frac{3\pi}{4}$	0.707	-0.707	-1
$\frac{7\pi}{8}$	0.383	-0.924	-0.414
$\pi$	0	-1	0
$\frac{9\pi}{8}$	-0.383	-0.924	0.414
$\frac{5\pi}{4}$	-0.707	-0.707	2.414
$\frac{11\pi}{8}$	-0.924	-0.383	2.414
$\frac{3\pi}{2}$	-1	0	undef.
$\frac{13\pi}{8}$	-0.924	0.383	-2.414
$\frac{7\pi}{4}$	-0.707	0.707	-1
$\frac{15\pi}{8}$	-0.383	0.924	-0.414
$2\pi$	0	1	0

- 2) On the appropriate grid, graph the functions from the table in part 1.



- 3) State the vertical asymptotes (V.A.s) of  $y = \tan x$  and plot them on the grid. Explain why the V.A.s occur.

$y = \tan \theta = \frac{\sin \theta}{\cos \theta}$ . The V.A.s occur where the denominator is zero, i.e.,  $\cos \theta = 0$ .