1. Using you Calculator or IPAD (Graph Calc HD) plot and **<u>sketch</u>** the following functions for $-2\pi \le x \le 2\pi$.

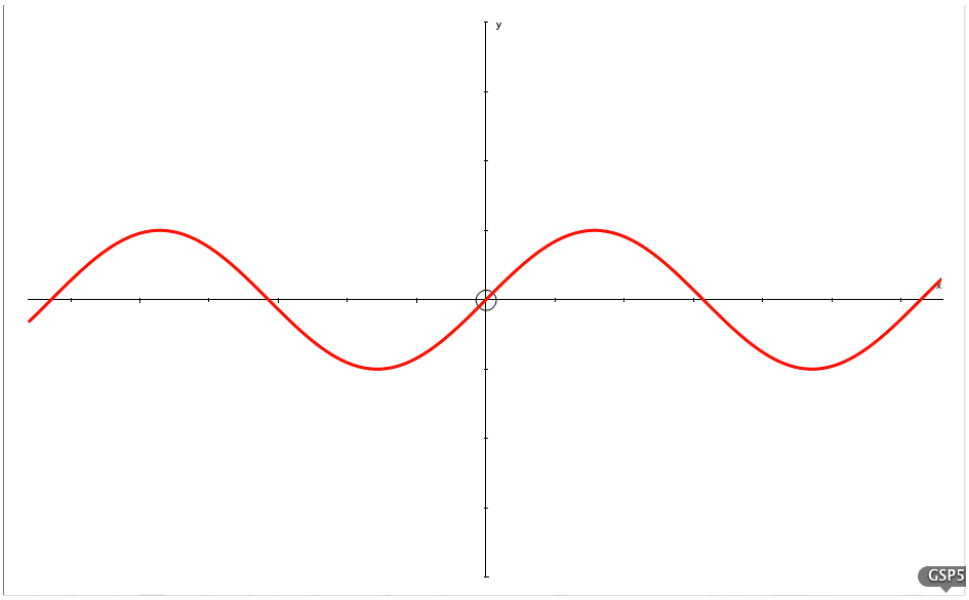
$y = \sin x$ has already been plotted for you.

A.

$y = \sin x$

$y = 3\sin x$

$y = 0.5\sin x$

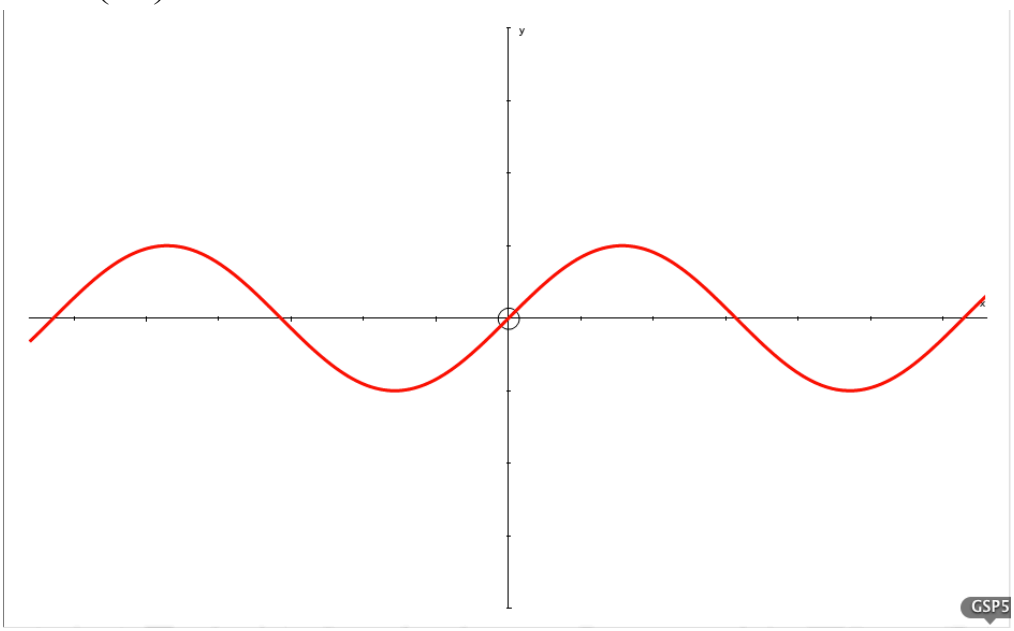


B.

$y = \sin(x)$

$y = \sin(3x)$

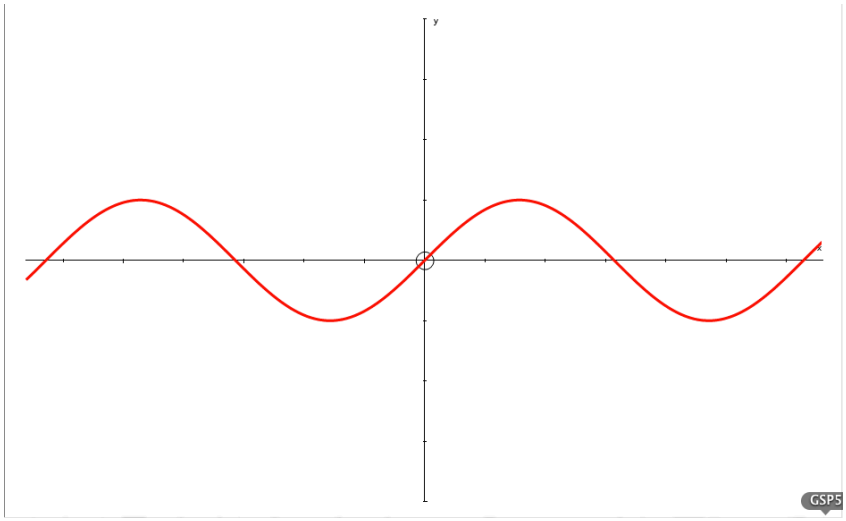
$y = \sin\left(\frac{1}{3}x\right)$



c.)

$y = \sin x$

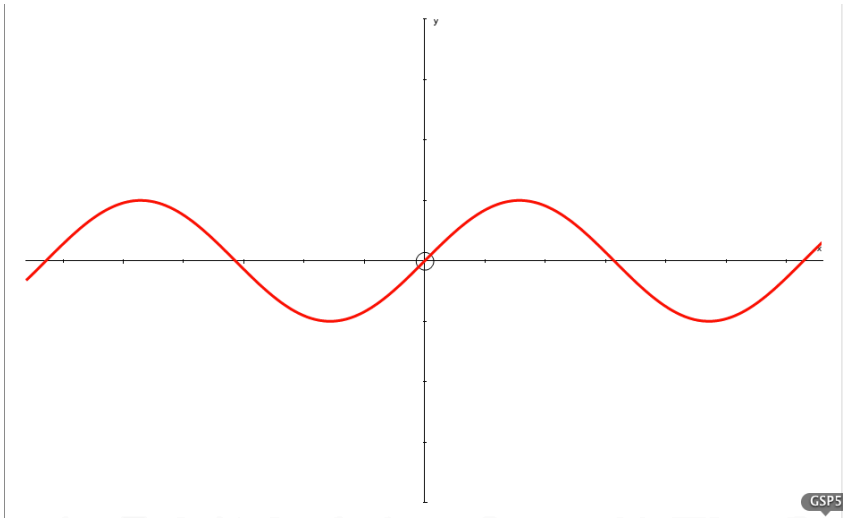
$y = \sin(x - 3)$



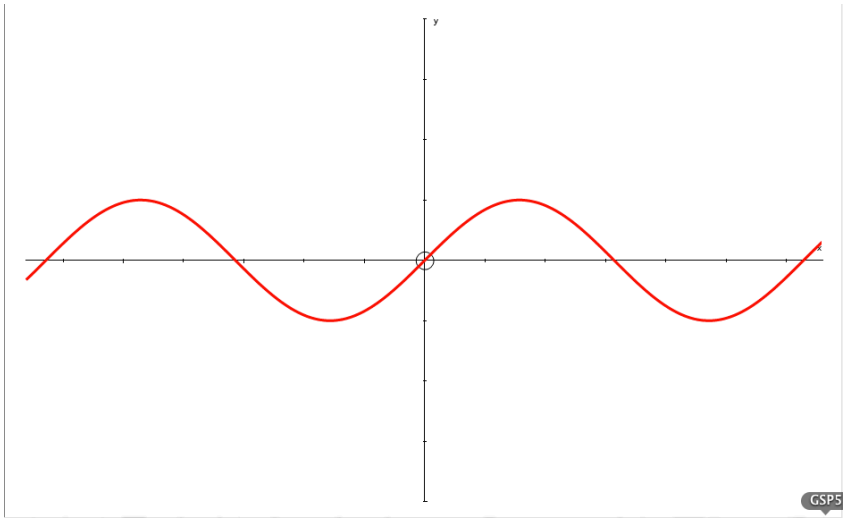
d.)

$y = \sin x$

$y = \sin x - 2$



e.) $y = 3\sin\left(\pi(x - 4)\right) + 1$



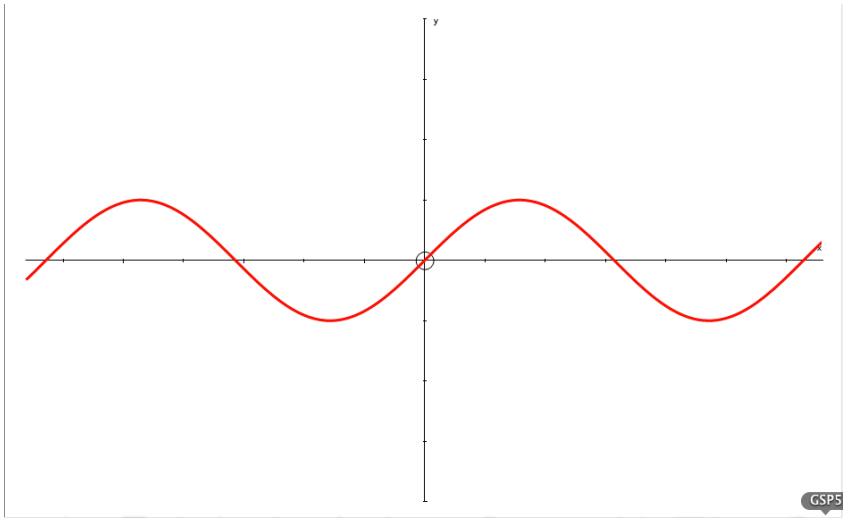
2. Now try to sketch the following functions WITHOUT the use of technology:

a.)

$y = \sin x$

$y = 4\sin x$

$y = -4\sin x$

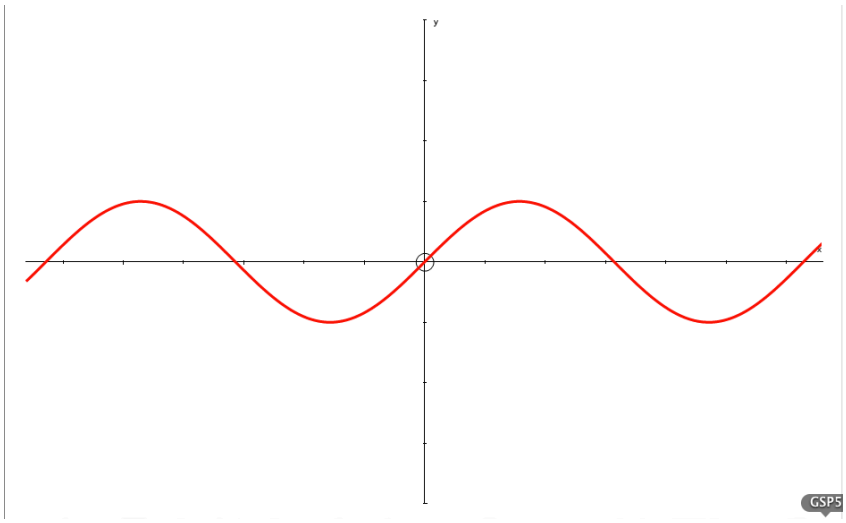


b.)

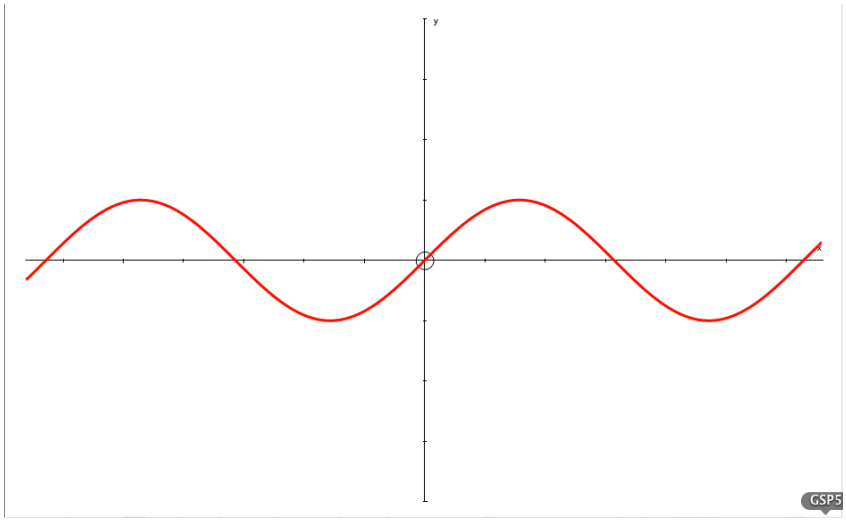
$y = \sin x$

$y = -4\sin x + 2$

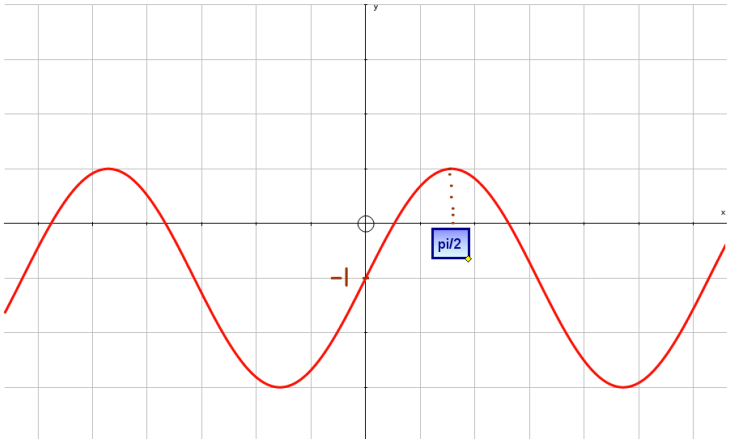
$y = -4\sin(2x)$

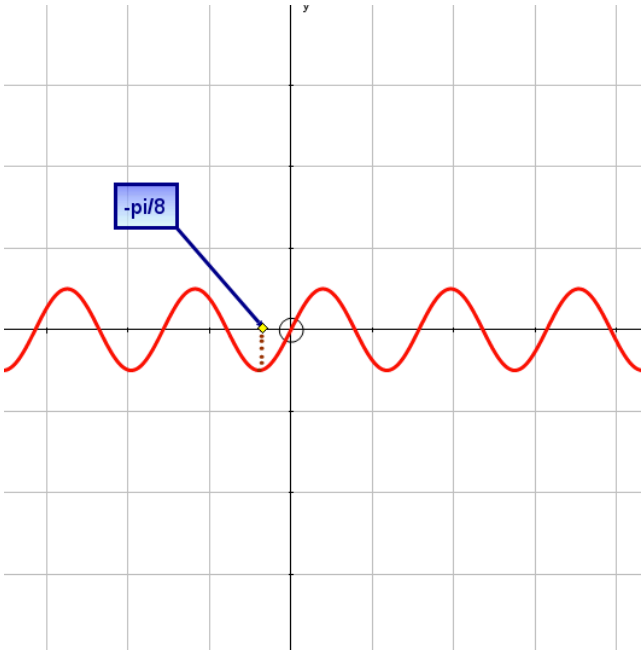


c.) $y = -4\sin\big(2(x-1)\big) - 0.5$



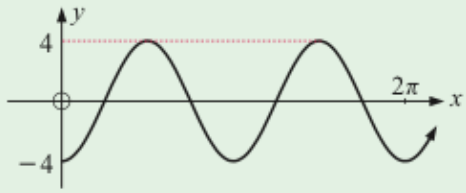
3. Given the graph of the sine function below, write the equation:





Find the cosine function represented in the following graphs:

a



b