

Practice Problems
for the Calculus I/Precalculus Placement Test - Fall, 2005
Part 10

1. Evaluate the following.

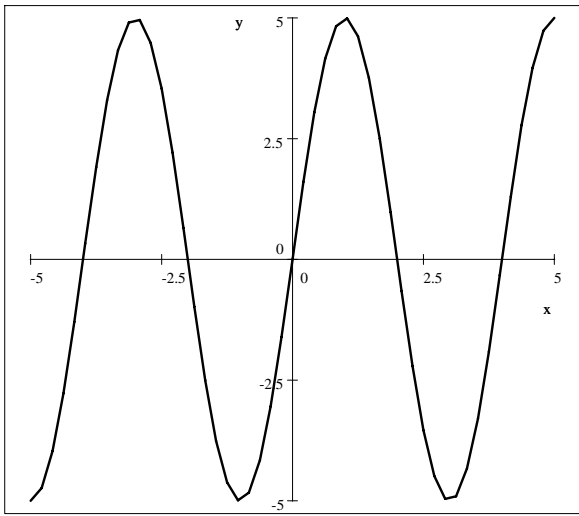
(1) $\sin(405^\circ)$ (2) $\cos \frac{7\pi}{3}$ (3) $\tan \frac{7\pi}{6}$

2. Give the domain of $\tan x$ for $-2\pi \leq x \leq 2\pi$.

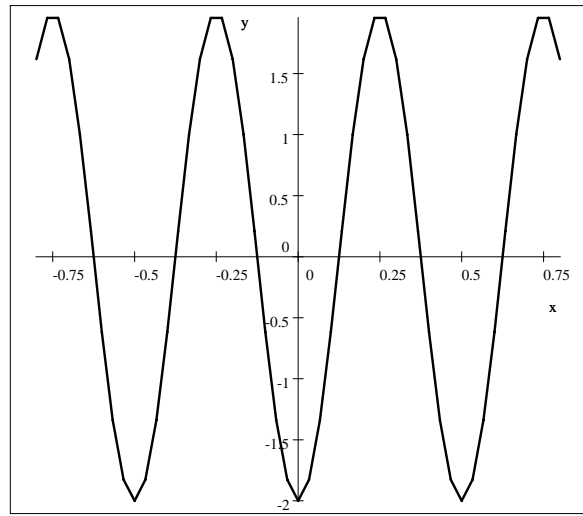
3. Determine the amplitude and period of each function and then sketch its graph for two periods.

(1) $f(x) = 2 \sin(3\pi x)$ (2) $f(x) = -3 \cos\left(\frac{1}{2}x\right)$ (3) $f(x) = 4 \cos\left(\frac{\pi}{3}x\right)$

4. Graphs of $f(x) = A \sin(\omega x)$ or $f(x) = A \cos(\omega x)$ are given below. Find a function for each graph. Estimate A and ω as close as possible.



(1)



(2)

a.

5. Let θ be acute $\left(0 < \theta < \frac{\pi}{2}\right)$. If $\sin \theta = \frac{2}{3}$, find $\sin(2\theta)$ and $\cos(2\theta)$.

6. Let θ be acute $\left(0 < \theta < \frac{\pi}{2}\right)$. If $\cos \theta = \frac{1}{4}$, find $\sin(2\theta)$ and $\cos(2\theta)$.