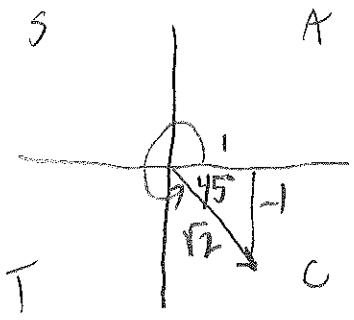
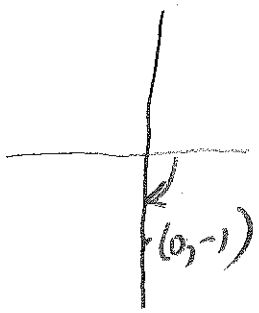
Sections 4.5 Review (with a little 4.4)

1. Evaluate the following (it may help to draw a picture).

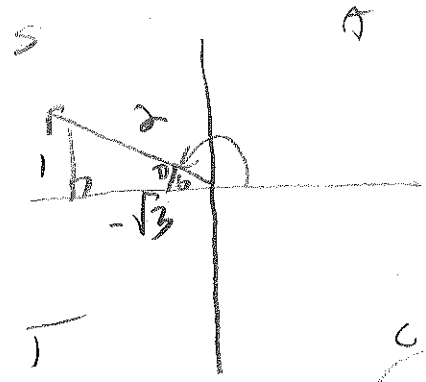
a) $\sin 315°$ b) $\cos(-90°)$ c) $\tan\frac{5\pi}{6}$



$\sin\theta' = -\frac{1}{\sqrt{2}} = \left(-\frac{\sqrt{2}}{2}\right)$



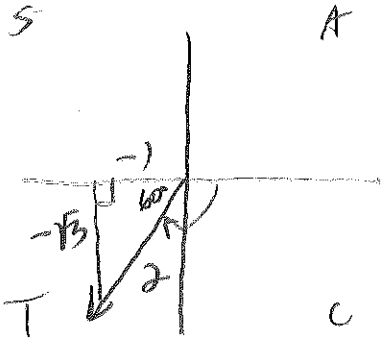
$\cos(-90) = 0$



$\tan\frac{5\pi}{6} = \frac{1}{-\sqrt{3}} = \left(-\frac{\sqrt{3}}{3}\right)$

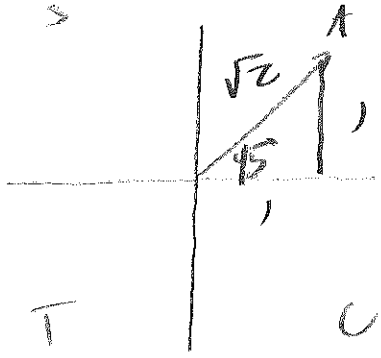
2. Evaluate the following (it may help to draw a picture).

a) $\sec\frac{-2\pi}{3}$ b) $\csc\frac{\pi}{4}$ c) $\cot(-210°)$



$\sec = \frac{1}{\cos} = \frac{1}{-1/2}$

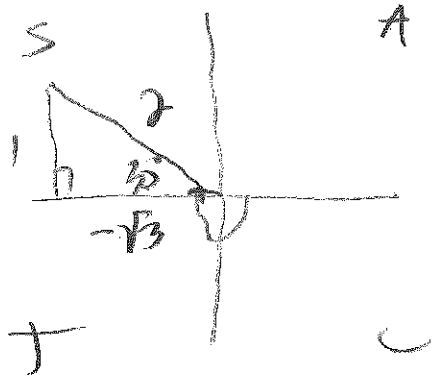
$= -2$



$\csc = \frac{1}{\sin}$

$= \frac{1}{1/\sqrt{2}}$

$= \sqrt{2}$



$\cot = \frac{1}{\tan}$

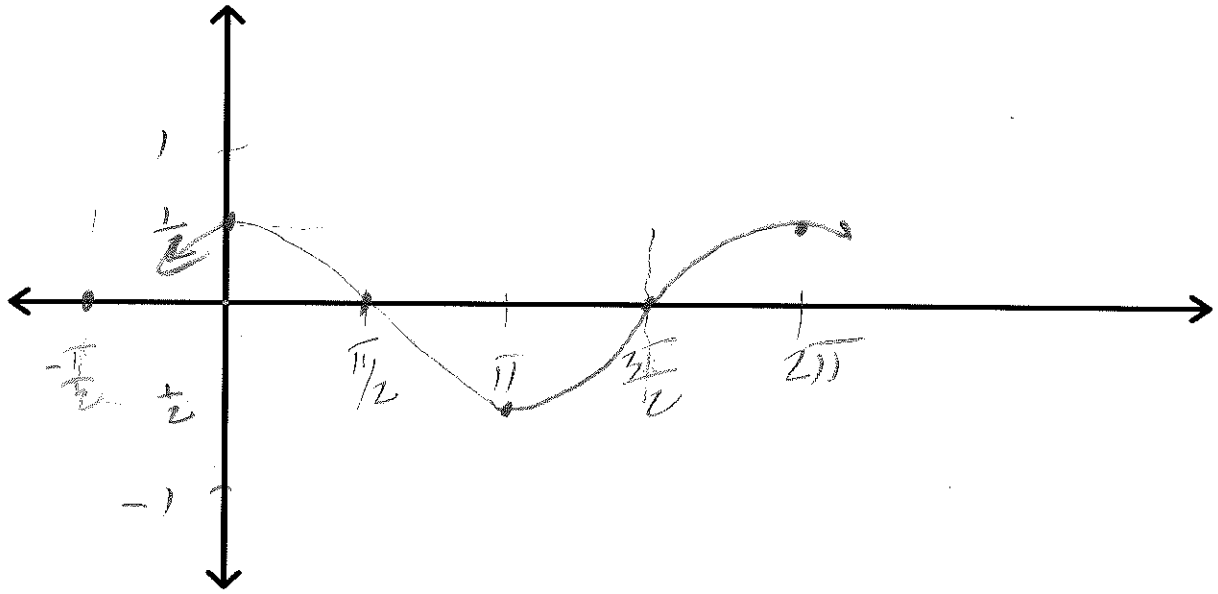
$= \frac{1}{\frac{1}{-\sqrt{3}}} = -\sqrt{3}$

Sections 4.5 Review (with a little 4.4)

Graph at least one period of the following, or from 0 to 2π

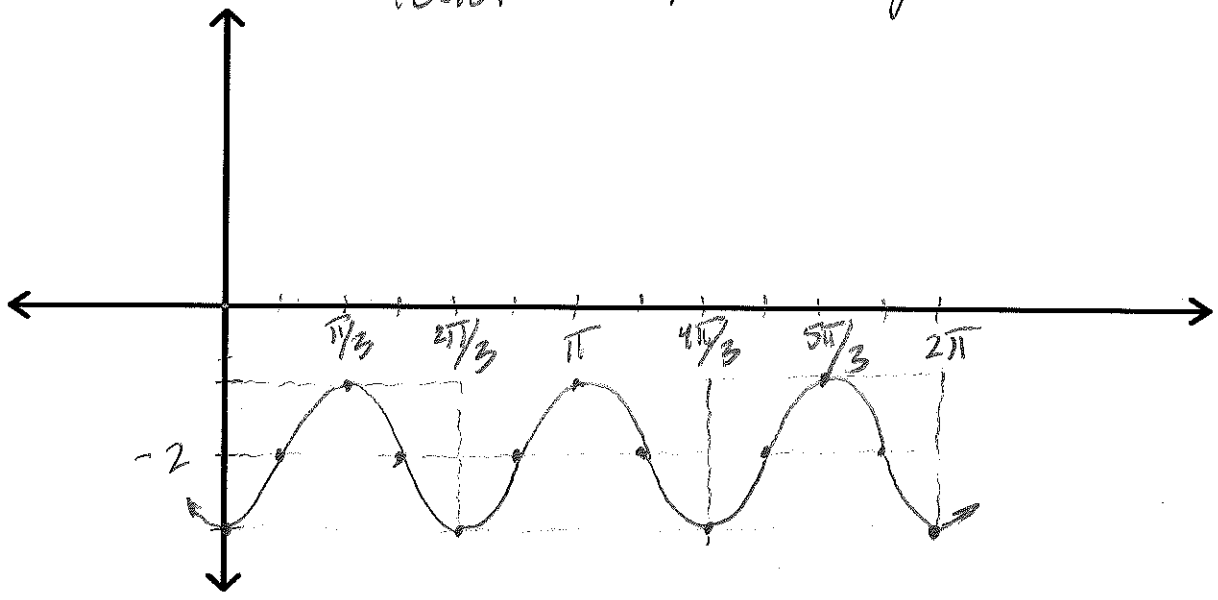
3. $y=\frac{1}{2}\sin\left(x+\frac{\pi}{2}\right)$

amp $= \frac{1}{2}$
Period $= 2\pi$
horizontal shift left $\pi/2$



4. $y=-\cos 3x-2$

Vertical shift down 2 reflect over x-axis
Period $= 2\pi/3$ amp $=1$

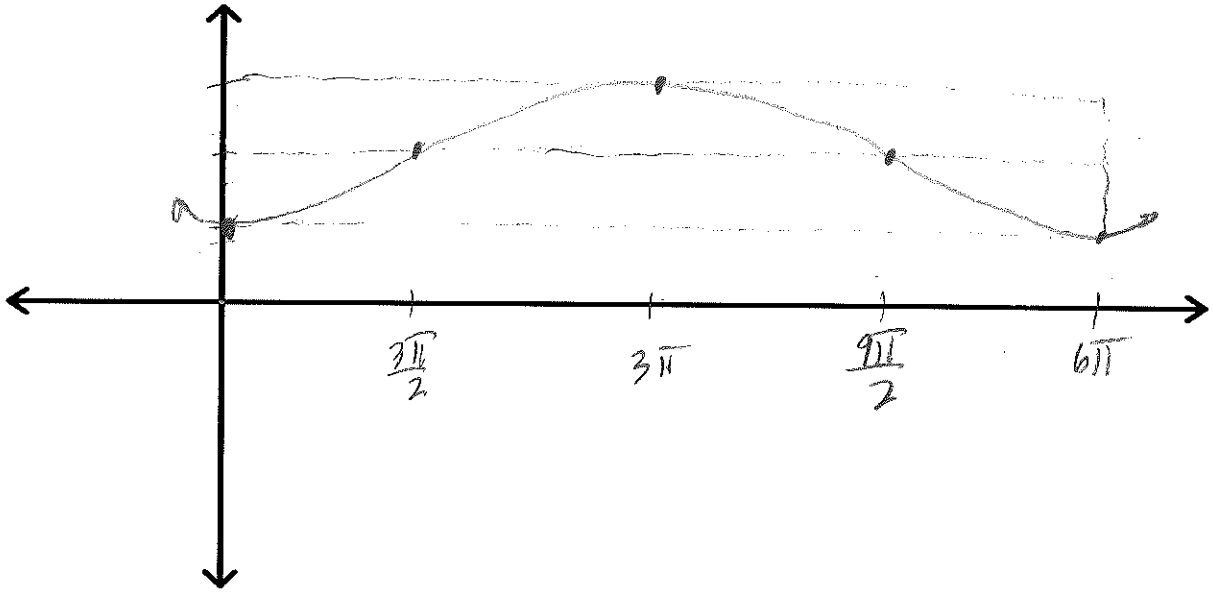


Sections 4.5 Review (with a little 4.4)

Graph at least one period of the following, or from 0 to 2π

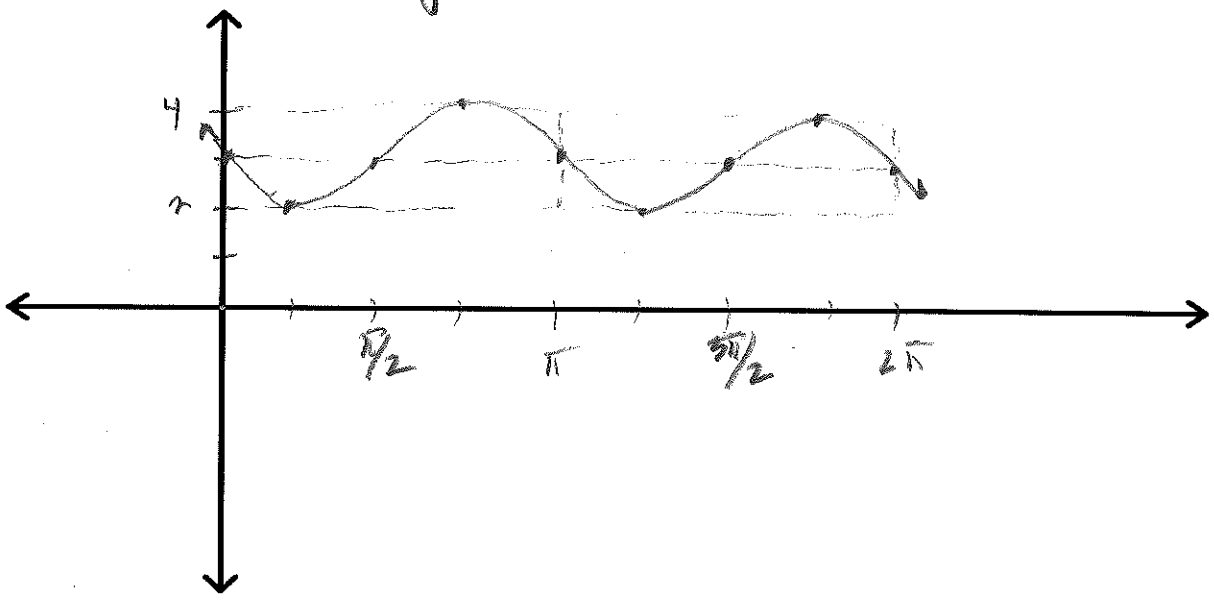
5. $y=-\cos\frac{1}{3}x+2$

vertical shift up 2
$a=-1$
$P=2\pi/\frac{1}{3}=6\pi$
reflect over x-axis



6. $y=-\sin 2x+3$

vertical shift up 3
reflect over x-axis
$P=2\pi/2=\pi$
$a=1$

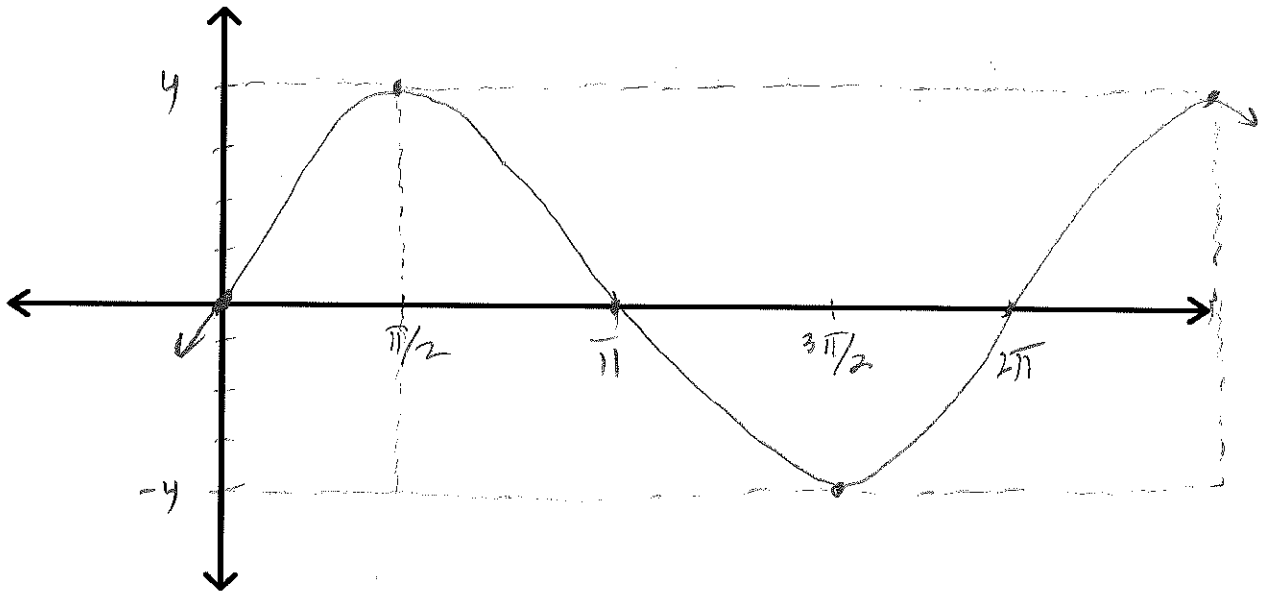


Sections 4.5 Review (with a little 4.4)

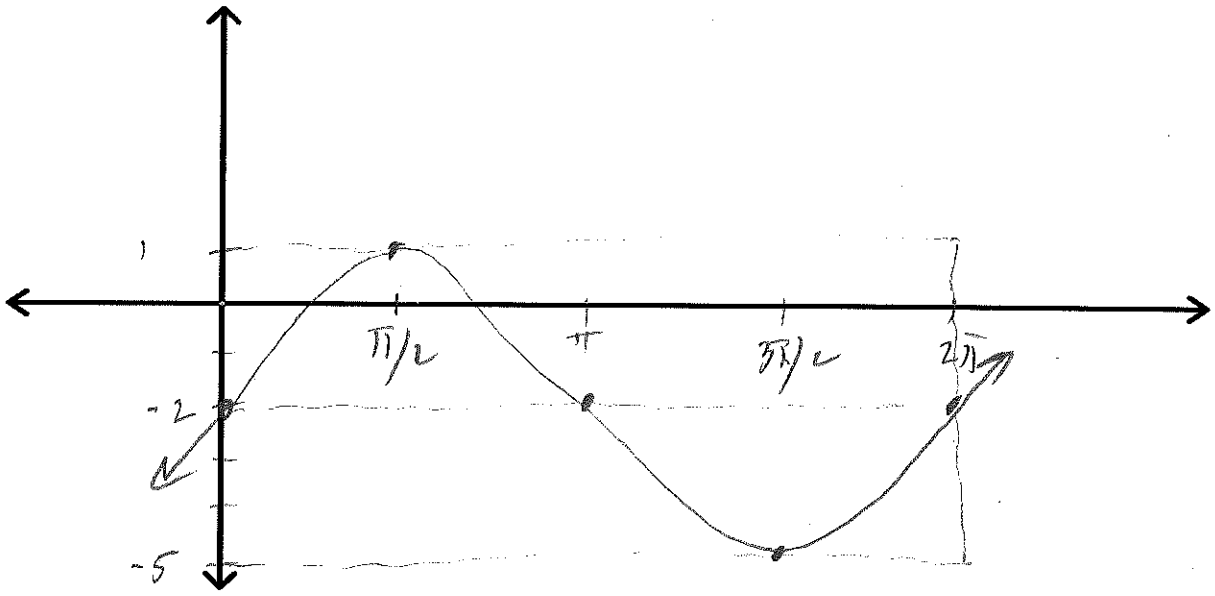
Graph at least one period of the following, or from 0 to 2π

ampl = 4 horizontal shift right $\pi/2$

7. $y = 4\cos\left(x - \frac{\pi}{2}\right)$



8. $y = 3\sin x - 2$ Vertical shift down 2 ampl = 3



Sections 4.5 Review (with a little 4.4)

9. $y = -\frac{1}{2}\cos\left(x + \frac{\pi}{3}\right)$

amp $= \frac{1}{2}$ horizontal shift left $\pi/3$
reflect over x-axis