

Name: Key

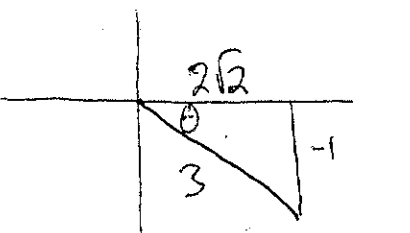
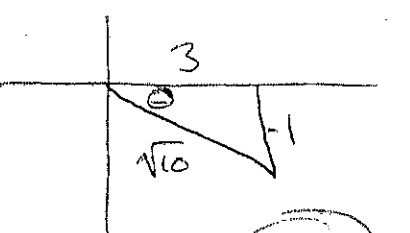
Per: \_\_\_\_\_

PC 4 – Review

The first question on this test will be to complete the entire unit circle.

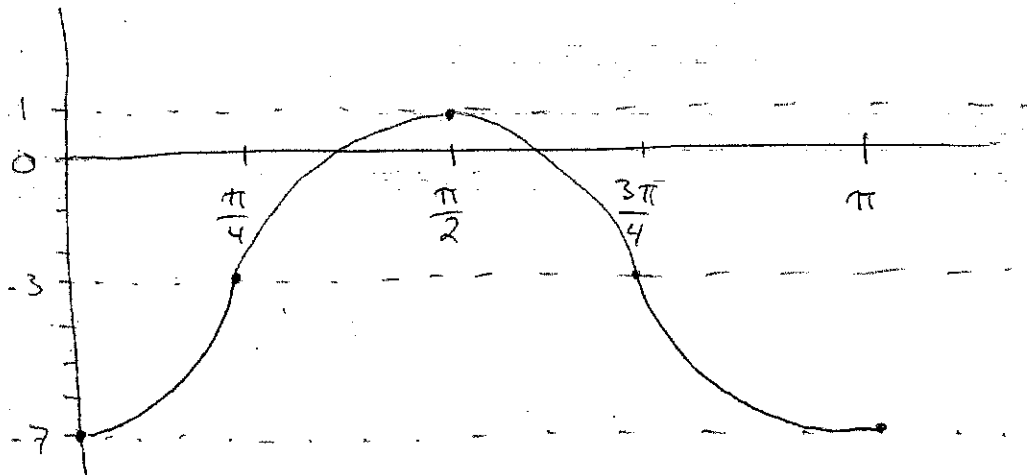
<p>Convert from degrees to radians [2 pts]</p> <p>1) <math>690^\circ</math></p> $690 \left( \frac{\pi}{180} \right)$ $= \frac{23\pi}{6}$	<p>Convert from DMS to decimal Degrees [2 pts]</p> <p>2) <math>17^\circ 33' 42''</math></p> $17 + \left( \frac{33}{60} \right) + \left( \frac{42}{3600} \right)$ $= 17.561\bar{6}^\circ$	<p>Convert from radians to degrees [2 pts each]</p> <p>3) <math>\frac{9\pi}{8}</math></p> $\frac{9(180)}{8}$ $= 202.5^\circ$ <p>4) <math>\frac{-27\pi}{5}</math></p> $\frac{-27(180)}{5}$ $= -972^\circ$	
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Find each of the following [2 pts each]

<p>5) <math>\sin^{-1}\left(\frac{1}{2}\right)</math></p> $30^\circ$ <p>or</p> $\frac{\pi}{6}$	<p>6) <math>\cot\left(\sin^{-1}\left(-\frac{1}{3}\right)\right)</math></p>  <p><math>\cot(\theta)</math></p> $= -2\sqrt{2}$	<p>7) <math>\csc\left(\tan^{-1}\left(-\frac{1}{3}\right)\right)</math></p>  <p><math>\csc(\theta) = -\sqrt{10}</math></p>
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8) Graph one cycle of the function below. [5 pts]

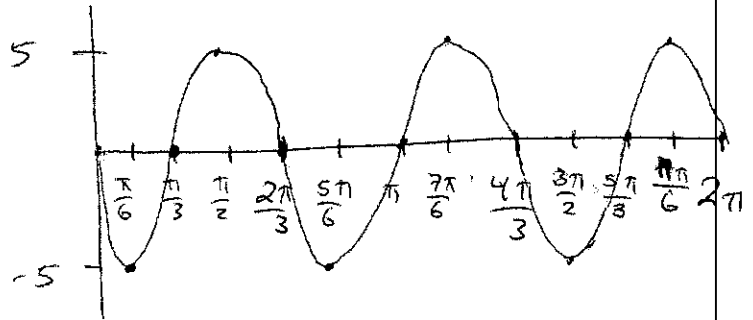
$$y = 4 \cos\left(2\left(x + \frac{\pi}{2}\right)\right) - 3$$



9) Use a graph to find all zeros on the interval  $[0, 2\pi]$  for the function below. [5 pts]

$$y = -5 \cos\left(3\left(x - \frac{\pi}{6}\right)\right)$$

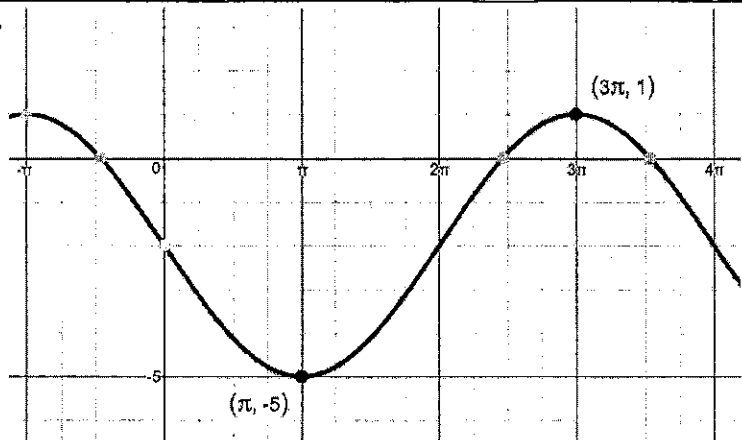
$$X = \left\{0, \frac{\pi}{3}, \frac{2\pi}{3}, \pi, \frac{4\pi}{3}, \frac{5\pi}{3}, 2\pi\right\}$$



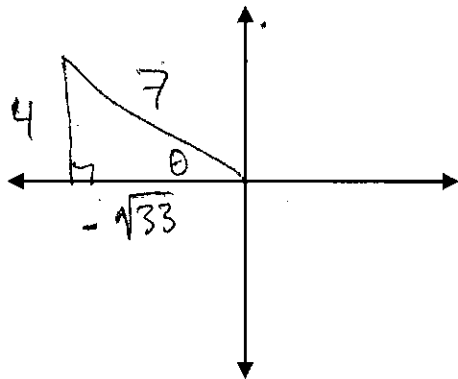
10) Give two possible equations for this waveform, one as sine, one as cosine. [5 pts]

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

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



11) Given  $\sin \theta = \frac{4}{7}$  and  $\tan \theta < 0$ , Draw a reference triangle and find the value of all six trig functions. [5 pts]



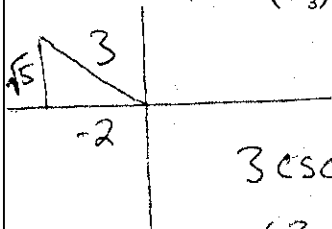
$\sin \theta = \frac{4}{7}$	$\csc \theta = \frac{7}{4}$
$\cos \theta = \frac{-\sqrt{33}}{7}$	$\sec \theta = \frac{7}{-\sqrt{33}} = -\frac{7\sqrt{33}}{33}$
$\tan \theta = \frac{4}{-\sqrt{33}} = -\frac{4\sqrt{33}}{33}$	$\cot \theta = \frac{-\sqrt{33}}{4}$

12) Find an equation of a negative cosine function with amplitude=6, period= $\pi$ , passing through the point  $\left(\frac{2\pi}{3}, 4\right)$ . [6 pts]

$$y = -6 \cos\left(2\left(x - \frac{2\pi}{3}\right)\right) + 10$$

A/B Level Extra Practice

13) Find  $3 \csc(\cos^{-1}(-\frac{2}{3}))$



$$3 \csc(\theta) = 3 \left(\frac{3}{\sqrt{5}}\right) = \frac{9}{\sqrt{5}} = \frac{9\sqrt{5}}{5}$$

14) Graph one cycle of:  $y = -4 \sin\left(3\left(x + \frac{\pi}{6}\right)\right) - 3$

