

GROUP NAME:	Student Names (First and Last)
Logo:	Speaker/Presenter: <u>Rita</u>
Date: _____	Writer/Prep: <u>Trey</u>
Topics:	QC/Leader: <u>Mallory Courtney</u>

Instructions:

Exam #3

MAT 146

2. Complete the proof of the identity by choosing the Rule that justifies each step.

$$(1 - \sin^2 x) \csc x = \cos x \cot x$$

$$= \cos^2 x \csc x \quad \text{Pythagorean}$$

$$= \cos^2 x \left(\frac{1}{\sin x} \right) \quad \text{reciprocal}$$

$$= \cos x \left(\frac{\cos x}{\sin x} \right) \quad \text{Algebra Quotient}$$

$$= \cos x \cot x \quad \text{Quotient}$$

<p>GROUP NAME:</p> <p>Logo:</p>	<p>Student Names (First and Last)</p> <p>Speaker/Presenter: <u>Rifa, Courtney</u></p>
<p>Date: _____</p> <p>Topics:</p>	<p>Writer/Prep: <u>Trey Murrill</u></p> <p>QC/Leader: <u>Mallory</u></p>

Instructions:

#3

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

amplitude - 2

period = $\frac{2\pi}{\pi} = 2$

phase shift - $-c/b = -\frac{\pi/3}{\pi} = -\frac{1}{3}$

$$-\frac{\pi}{3} \div \pi$$

$$-\frac{\pi}{3} \times \frac{1}{\pi} = -\frac{1}{3}$$

GROUP NAME: Plant Science

Student Names (First and Last)

Logo:

Speaker/Presenter: Nicole Bailey

Date: 5/9/2013

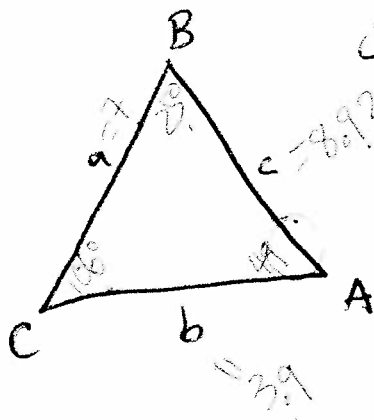
Writer/Prep: Michael Torres

Topics:

QC/Leader: _____

Instructions:

Problem #4



given { $B = 25^\circ$
 $C = 106^\circ$
 $a = 7$

~~$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$~~

$180^\circ - 25^\circ - 106^\circ = 49^\circ = A$

~~$b = \frac{\sin 7}{49} = \frac{\sin b}{25}$~~

~~$c = \frac{\sin 7}{49} = \frac{\sin c}{106}$~~

solve for = $A = 49^\circ$
 $b = 0.062$
 $c = 0.263$

$\frac{\sin 49^\circ}{7} = \frac{\sin 25^\circ}{b}$

$\frac{\sin 49^\circ}{7} = \frac{\sin 106^\circ}{c}$

$b = \frac{7 \sin 25^\circ}{\sin 49^\circ} = 3.9$

$c = \frac{7 \sin 106^\circ}{\sin 49^\circ} = 0.92$

GROUP NAME: <u>The Scientistz</u>	Student Names (First and Last) <u>NroCeP</u>
Logo:	Speaker/Presenter: <u>Kaitlin M</u>
Date: <u>May 9, 2013</u>	Writer/Prep: <u>Sabelle</u>
Topics:	QC/Leader: <u>Alyssa B</u>

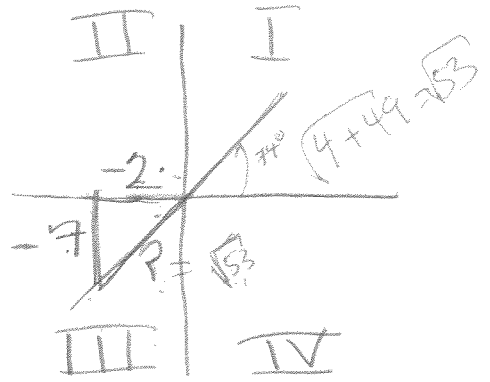
Instructions:

5

$$\cos \theta = \frac{\text{adj}}{\text{hyp}} = \frac{-2}{\sqrt{53}}$$

or $-\frac{2\sqrt{53}}{53}$

$$\csc \theta = \frac{1}{\sin \theta} = \frac{\text{hyp}}{\text{opp}} = \frac{\sqrt{53}}{-7}$$



$$A^2 + B^2 = C^2$$

$$2^2 + 7^2 = C^2$$

$$4 + 49 = C^2$$

$$53 = C^2$$

$$\sqrt{53} = C$$

~~Waste~~

$$\tan \theta = \frac{-7}{-2}$$

OP

$$\theta = \tan^{-1}\left(\frac{7}{2}\right)$$

$$74.05 + 180^\circ$$

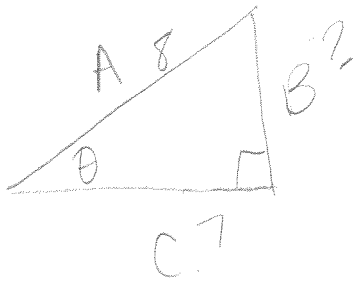
$$\cos x = -0.2747...$$

$$\csc = -1.040...$$

GROUP NAME: <u>Scientists</u>	Student Names (First and Last) <u>Alyssa</u>
Logo:	Speaker/Presenter: <u>Nicole</u>
Date: <u>May 9, 2013</u>	Writer/Prep: <u>Jacabella</u>
Topics:	QC/Leader: <u>Kaitlin</u>

Instructions: # 6 Test 3 SOHCAHTOA

Find ~~tan~~ θ , ~~csc~~ θ and $\cos \theta$
 Exact values, not decimals.



$$A^2 + B^2 = C^2$$

$$7^2 + B^2 = 8^2$$

$$49 + B^2 = 64$$

$$\begin{array}{r} -49 \\ \hline \end{array}$$

$$A = 8$$

$$B = \sqrt{15}$$

$$C = 7$$

$$B^2 = 15 \Rightarrow B = \sqrt{15}$$

$$\tan \theta = \frac{\text{opp}}{\text{adj}} = \frac{\sqrt{15}}{7}$$

$$\cos \theta = \frac{\text{adj}}{\text{hyp}} = \frac{7}{8}$$

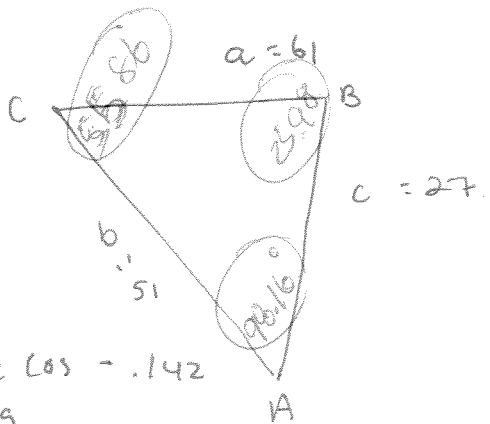
$$\csc \theta = \frac{1}{\sin \theta} = \frac{1}{\frac{\text{opp}}{\text{hyp}}} = \frac{1}{\frac{\sqrt{15}}{8}}$$

$$\text{OR } \csc \theta = \frac{\text{hyp}}{\text{opp}} = \frac{8}{\sqrt{15}}$$

$$\frac{8\sqrt{15}}{15}$$

GROUP NAME: ??? !!!	Student Names (First and Last)
Logo: !!! ???	Speaker/Presenter: <u>Humer Ali</u>
Date: <u>05/09/13</u>	Writer/Prep: <u>Kayla James</u>
Topics: #7 <u>shit!!!</u>	QC/Leader: <u>Shivam Singh</u>

Instructions: Consider a triangle ABC like the one below. Suppose that $B = 51^\circ$, $C = 27^\circ$, and $a = 61$. (The figure is not drawn to scale.) Solve the triangle. Round your answers to the nearest tenth.



$A = \arccos(-.142)$
 $A = .99$
 $C = 123.13$
 $B = 55.88$

$180 - 98.25 = 81.75$
 $81.75 - 25.98 = 55.86$

$A + B + C = 180^\circ$
 Law of Cosines
 1). $b^2 = a^2 + c^2 - 2ac \cos B$
 2). $a^2 = b^2 + c^2 - 2bc \cos A$
 3). $c^2 = a^2 + b^2 - 2ab \cos C$

$61^2 = 51^2 + 27^2 - 2754 \cos A$
 $3721 = 2601 + 729 - 2754 \cos A$
 $3721 = 3330 - 2754 \cos A$
 $-3330 \quad -3330$
 $391 = -2754 \cos A$
 $-2754 \quad -2754$
 $-.142 = \cos A$

$\cos^{-1}(-.142)$

$B = \cos^{-1} \left(\frac{27^2 - 51^2 - 61^2}{-2 \cdot 51 \cdot 61} \right)$

$A = \cos^{-1} \left(\frac{61^2 - 51^2 - 27^2}{-2 \cdot 51 \cdot 27} \right)$

<p>GROUP NAME: ??? !!!</p> <p>Logo:</p>	<p>Student Names (First and Last)</p> <p>Speaker/Presenter: <u>Heimer Ali</u></p>
<p>Date: _____</p> <p>Topics: <u>3rd Test</u></p>	<p>Writer/Prep: <u>'Shuan'</u></p> <p>QC/Leader: <u>Kayla James</u></p>

Instructions: Q → 8

Graph the function

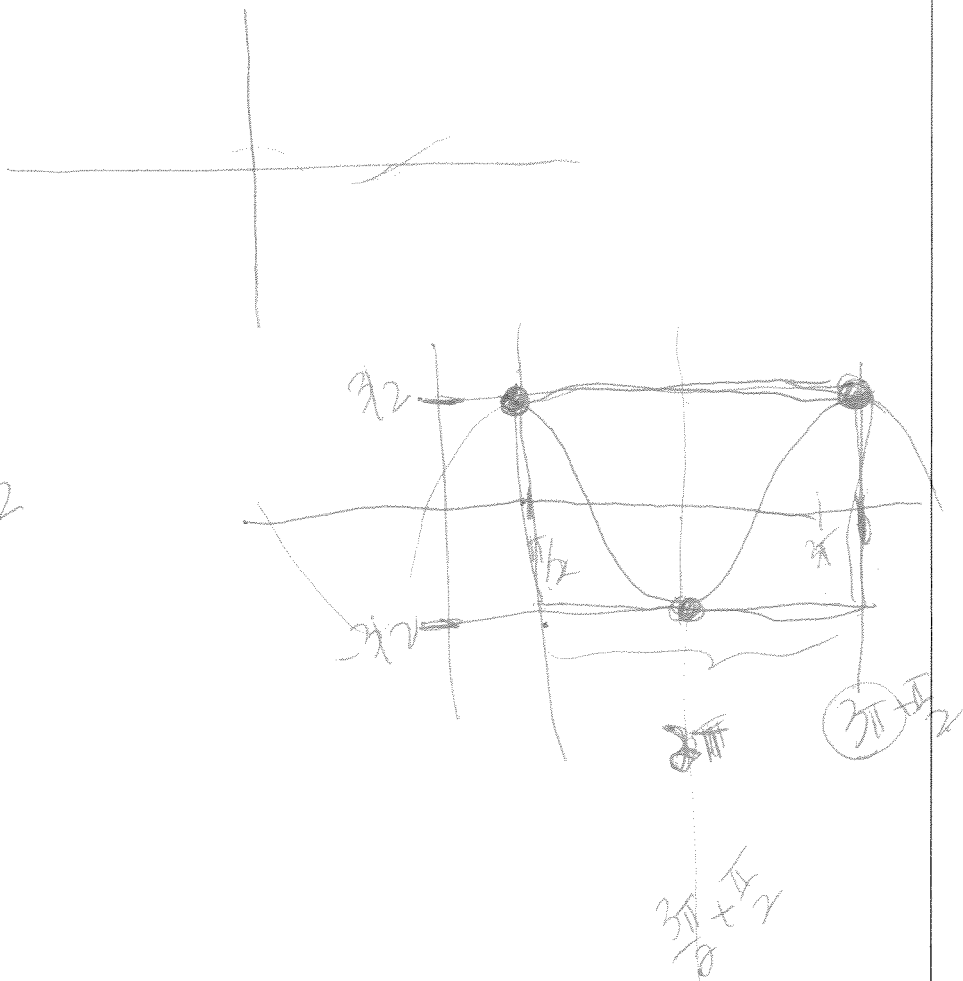
$$y = \frac{3}{2} \cos\left(\frac{2}{3}x - \frac{\pi}{3}\right)$$

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

Amp = $\frac{3}{2}$

Period = $\frac{2\pi}{\frac{2}{3}} = 3\pi$

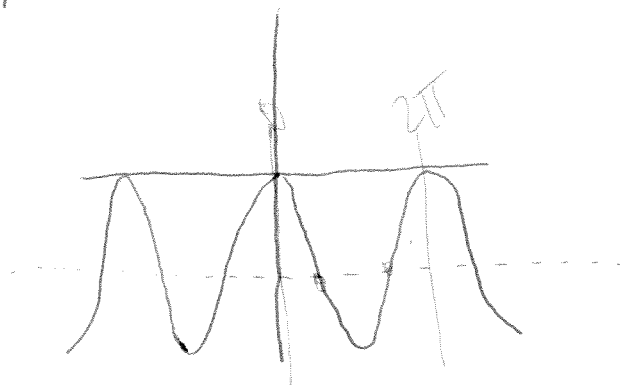
P.S. $\frac{+\pi/3}{\frac{2}{3}} = \pi/2$



GROUP NAME: <u>TEAM</u>	Student Names (First and Last)
Logo: <u>AWESOME !!</u>	Speaker/Presenter: <u>Quay</u>
Date: <u>5/9</u>	Writer/Prep: _____
Topics: <u>TEST 3 #9</u>	QC/Leader: <u>William Smity</u>

Instructions: Find All Solutions of the equation
 in the interval $[0, 2\pi)$ $\cos\theta - 1 = -1$

$Y_1 = \cos(x) - 1$ #9
 $Y_2 = -1$




Window
 $X_{min}: 0$
 $X_{max}: 2\pi$

STAT CALC $\frac{5}{2}$ ENTER $\frac{8}{X}$

$x = 1.57 \checkmark$

$x = 4.71 \checkmark$

STAT $\frac{CIRC}{5}$ $\frac{ENTER}{2\pi}$
 7777.45

GROUP NAME: <u>Brotein</u>	Student Names (First and Last)
Logo: 	Speaker/Presenter: <u>Con on the Cob</u>
Date: _____	Writer/Prep: <u>Bobby O'Connor</u>
Topics:	QC/Leader: <u>Robert Greensman</u>

Instructions: Based on the graph, what is the equation?
 #10

Period: $\frac{8\pi}{3}$ which means $B = \frac{3}{4}$ ✓

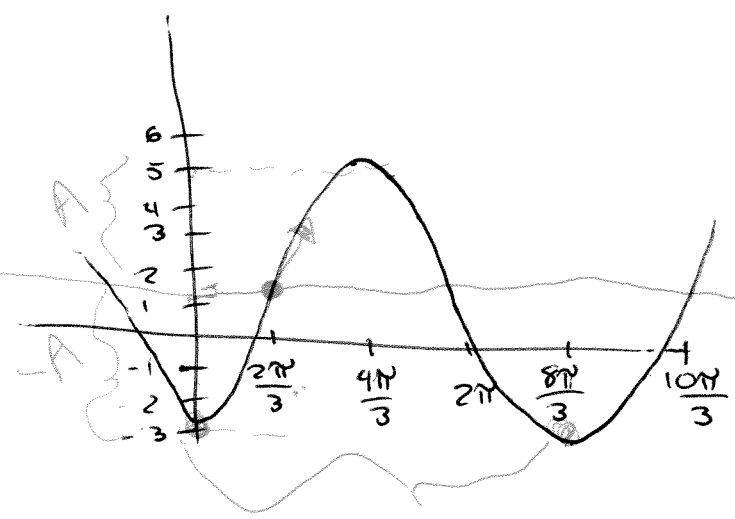
$$\frac{2\pi}{B} = \text{Period}$$

Amplitude: $4 = A$

C: $\frac{\pi}{2}$

D: $+1$

Graph



$$\frac{2\pi}{B} = \frac{-C}{B}$$

$$C = -\frac{B}{A} \left(\frac{2\pi}{B} \right) D$$

Answer:

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

L1	L2
0	-3
$\frac{2\pi}{3}$	1
$\frac{4\pi}{3}$	4
$\frac{6\pi}{3}$	1
$\frac{8\pi}{3}$	-3

STAT OR
 CALC: 0 Survey
 $A = 4$
 $B = .75$
 $C = -1.57$
 $D = 1$

Period = $\frac{8\pi}{3}$

GROUP NAME: #11 Troy, Troy, Corn	Student Names (First and Last)
Logo:	Speaker/Presenter: <u>Corneal Douglas</u>
Date: _____	Writer/Prep: <u>Troy P</u>
Topics:	QC/Leader: <u>Troy</u>

Instructions:

$$\sin^{-1}\left(-\frac{1}{2}\right) = -30^\circ$$

$$\frac{\pi}{180}(-30) = \frac{-30\pi}{180} = -\frac{\pi}{6} \quad /$$

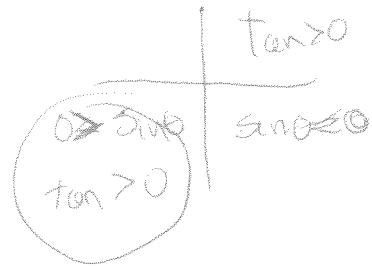
<p>GROUP NAME: <u>Troy, Trey, Corn</u></p> <p>Logo:</p>	<p>Student Names (First and Last)</p> <p>Speaker/Presenter: <u>Corn</u></p>
<p>Date: _____</p> <p>Topics:</p>	<p>Writer/Prep: <u>Troy G</u></p> <p>QC/Leader: <u>Troy P</u></p>

Instructions:

#12 Determine the quadrant in which the terminal side of θ lies.

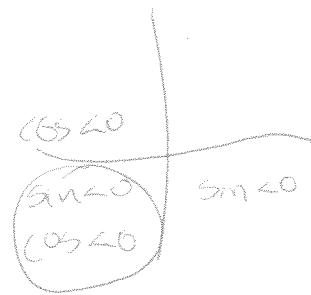
a. $\sin\theta < 0$ and $\tan\theta > 0$

Quadrant 3



b. $\sin\theta < 0$ and $\cos\theta < 0$

Quadrant 3



GROUP NAME: ?

Logo:

Date: 5/9/13

Topics:

Student Names (First and Last)

Speaker/Presenter: Jsh Golub

Writer/Prep: _____

QC/Leader: _____

Instructions:

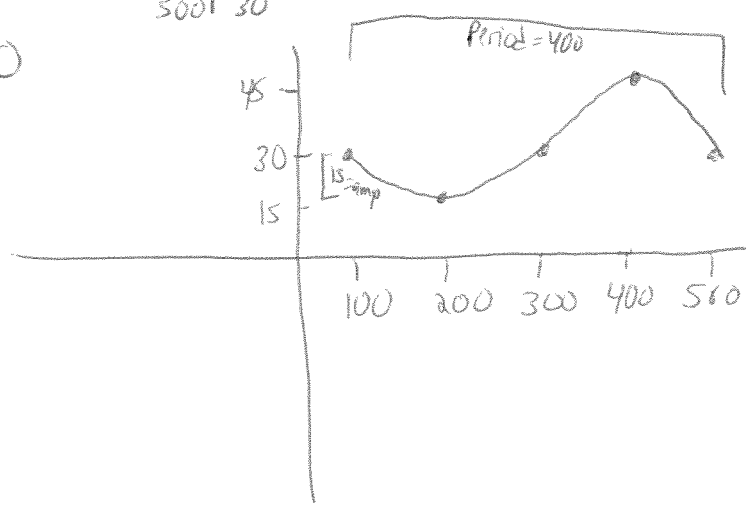
Sine Regression Part d #1

L1	L2
100	30
200	15
300	30
400	45
500	30



Period: $\frac{2\pi}{b} = \frac{2\pi}{.0157} = 400$

Amplitude: 15



Phase Shift: $b x + c = 0$

$.0157 x + 1.5707 = 0$

$.0157 x = -1.5707$

$x = \frac{-1.5707}{.0157}$

PS = 100

$X = 15,420$

$Y = 15.734$

GROUP NAME: ??? !!!	Student Names (First and Last)
Logo: !!, ???	Speaker/Presenter: <u>Humer Ali</u>
Date: <u>05/09/13</u>	Writer/Prep: <u>Sivam Singh</u>
Topics: <u>shit!!!</u> Part #2 of Part 2	QC/Leader: <u>Kayla James</u>

Instructions:
~~# 2~~ ~~Sine Regression~~
 Part 2. graph the conics

Graph the conics

$$\frac{(y-4)^2}{16} - \frac{(x+3)^2}{9} = 1$$

$$\frac{1}{4} - \frac{1}{3} = 1$$

center (-3, 4)
 hyperbola

$$\frac{(y-1)^2}{16} + \frac{(x+7)^2}{9} = 1$$


$$\frac{1}{4} + \frac{1}{3} = 1$$

center (-7, 1)
 ellipse

vertices

hyperbola: (3, 0), (3, 8)

ellipse: (-7, -3), (-10, 1), (-7, 5), (-4, 1)

GROUP NAME: <u>Brotein</u>	Student Names (First and Last)
Logo: 	Speaker/Presenter: <u>Rob</u>
Date: _____	Writer/Prep: <u>Bob</u>
Topics: <u>PART 2</u>	QC/Leader: <u>Con on The Cobb</u>

Instructions: DO IT!

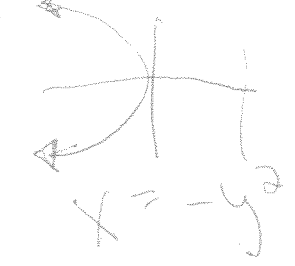
Problem # Last

$y^2 + x - 3y - 23 = 0$ PARABOLA y-value is the only one squared

~~$x^2 + y^2 - 3x + 2y - 23 = 0$ CIRCLE~~

~~$3x^2 - y^2 - 3x + 2y - 23 = 0$ HYPERBOLA~~

~~$3x^2 + y^2 - 3x - 23 = 0$ ELLIPSE~~



A = 1

~~A = 3 B = -1 Diff. Signs \Rightarrow Hyp.~~

~~A = 3 B = 1 Ellipse~~