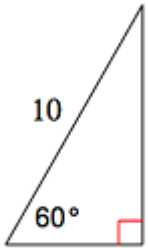**CALCULATOR FUNCTIONS**

Goals for lesson:
1. Understand the basic functions of a TI-83 and TI-84 calculator
2. Review arithmetic functions
3. Learn logarithm functions
4. Understand how to solve triangle sides and angles using six trig functions
5. Review calculator graphing and features
6. Learn to add and multiply matrices

Topic One: The Basics

$\frac{2}{18} =$	$\frac{32}{18} =$	$\left(\frac{3}{4}\right)^{-3}$
$3^3 =$	$\sqrt{81} =$	$\sqrt[3]{216} =$
$\sqrt[5]{32} =$	$\|4\| =$	$\|-4\| =$
$22^2 - 19^2 + 5142 =$	Repeat prior function	$\frac{4}{3}\pi(2)^3 =$
Find slope $(-2,4)\ (3,-1)$		

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ACADEMY

Topic Two: Arithmetic

Pick a Vice President and President from 6 people.	Pick two class representatives from 6 people.	$\frac{5!}{3!}$

Topic Three: Logarithms

$\ln 0 =$	$\log(-2) =$	$\ln e =$
$\log_2 31 =$	$\log 10 =$	$\ln 1 =$

Topic Four: Triangles

Calculator Mode: Degree vs. Radian

$\cos 180°$ $\qquad\qquad$ $\cos \pi$ $\qquad\qquad$ $\sec \frac{\pi}{4}$

In right triangle CAT, T=33°, A=90°, and AT = 55. Find CA.

Find angle A
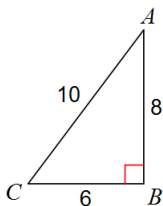
Use the calculator to solve the trig functions

$\cot 153°$ $\qquad\qquad$ $\csc 120°$

Topic Five: Graphing

Graph $3x + 2y = 5$

- Set the zoom to Standard mode

- Find the y-intercept

- Find the value of y when x = -3

- Find the value of y when x = 11

- Find the x-intercept

Graph $y = x^2 + 4x - 12$

- Change the viewing window to see the entire function

- Find the minimum

Graph $y = -2x^2 + 5x + 3$

- Change the viewing window to see the entire function

- Find the maximum

- Now graph $y = 2x - 4$ and find where the two graphs intersect

Topic Six: Matrices

$$\begin{bmatrix} 2 & 0 \\ -1 & 5 \end{bmatrix} + \begin{bmatrix} 6 & -4 \\ 11 & 2 \end{bmatrix} =$$

$$\begin{bmatrix} 3 \\ -4 \end{bmatrix} \times \begin{bmatrix} 7 & -2 \\ 5 & 1 \end{bmatrix} =$$

$$\begin{bmatrix} 7 & -2 \\ 5 & 1 \end{bmatrix} \times \begin{bmatrix} 3 \\ -4 \end{bmatrix} =$$

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