

5-12-14
3rd Trig

$$\textcircled{1} \quad y = \underline{3} \cos \left(\underline{2} \theta - 10 \right)$$

$$\text{Amp} = \underline{\quad} \quad \text{Period} = \underline{\quad} \quad \text{P.S.} = \underline{\quad}$$

$$\text{Amplitude} = 3$$

$$\text{Period} = \frac{360}{b} = \frac{360}{2} = 180^\circ$$

$$\text{Phase Shift} = \frac{-c}{b} = \frac{-(-10)}{2} = +5$$

$\textcircled{2}$ I give you

$$\text{Amp} = 6 \quad \text{period} = 90^\circ \quad \text{p.s.} = -12$$

Give the sin equation.

$$y = 6 \sin \left(\frac{4}{b} \theta + 48 \right)$$

$$\text{period} = \frac{360}{b}$$

$$\text{p.s.} = \frac{-c}{b}$$

$$\frac{90}{1} = \frac{360}{b}$$

$$\frac{-12}{1} = \frac{-c}{4}$$

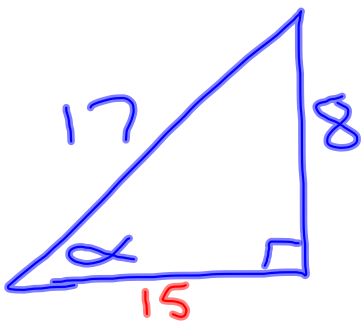
$$90b = 360$$

$$-c = -48$$

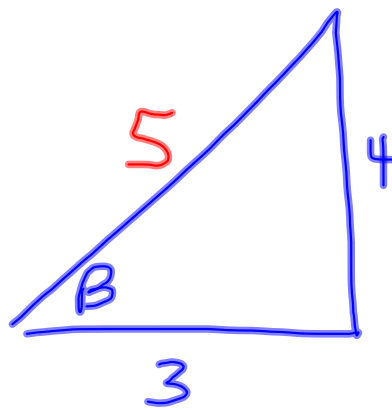
$$b = 4$$

$$c = -48$$

③ If $\sin \alpha = \frac{8}{17}$ and
 $\tan \beta = \frac{4}{3}$, find
 $\cos(\alpha + \beta)$.



$$8^2 + b^2 = 17^2$$
$$b = 15$$



$$\cos(\alpha + \beta) = \cos \alpha \cdot \cos \beta - \sin \alpha \cdot \sin \beta$$

$$\downarrow$$
$$\frac{15}{17} \cdot \frac{3}{5} - \frac{8}{17} \cdot \frac{4}{5}$$

$$\frac{45}{85} - \frac{32}{85}$$

$$\frac{13}{85}$$

$$\textcircled{4} \frac{\tan^2 x}{\sec^2 x}$$

$$\frac{\frac{\sin^2 x}{\cos^2 x}}{\frac{1}{\cos^2 x}} = \frac{\sin^2 x}{\cancel{\cos^2 x}} \cdot \frac{\cancel{\cos^2 x}}{1}$$

$$\sin^2 x$$

$$\textcircled{5} \cos(90^\circ + \theta)$$

$$= \cos 90^\circ \cdot \cos \theta - \sin 90^\circ \cdot \sin \theta$$



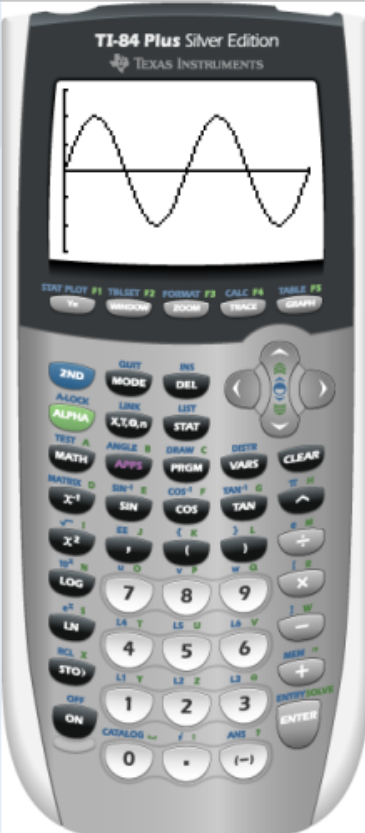
$$0 \cdot \cos \theta - 1 \cdot \sin \theta$$

$$0 - \sin \theta$$

$$- \sin \theta$$

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TEXAS INSTRUMENTS

WINDOW

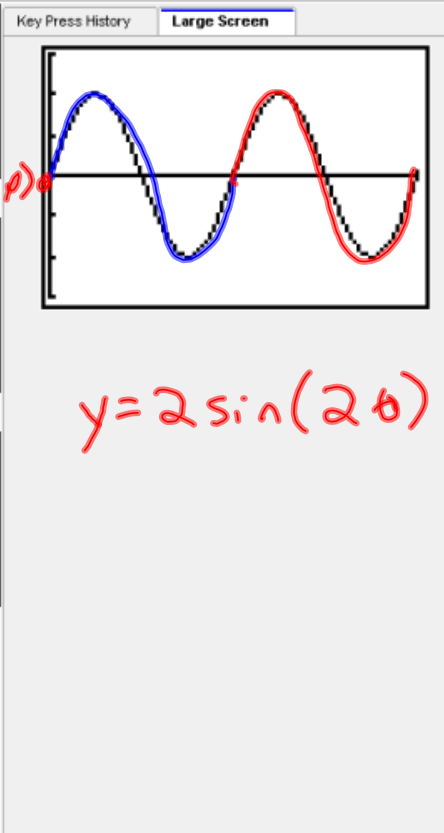
Xmin=0
Xmax=6.2831853...
Xscl=1.5707963...
Ymin=-3
Ymax=3
Yscl=1
Xres=1

Window

(0,0)

Key Press History

Large Screen



X	Y1
0	0
1.8186	-1.514
3.6371	-5.588
5.4557	1.9787
7.2742	-1.088
9.0928	-1.073

Table

X=0

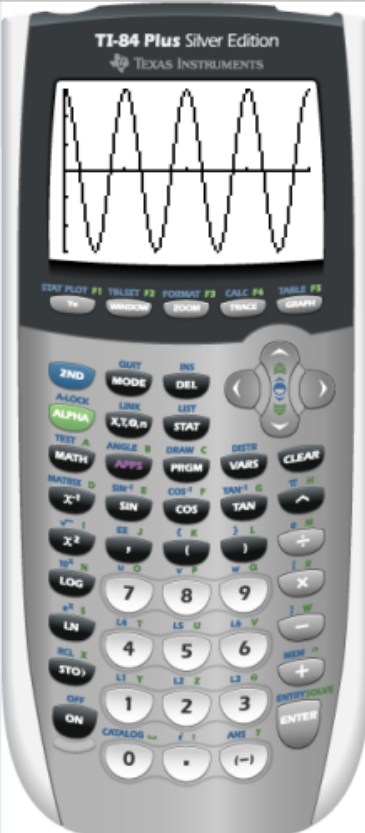
Graph

$y = 2 \sin(2\theta)$

Desktop icons: Mabbles, 4th Logic Given 2013-14, Smoking, Smoking Facts just..., End Logic Given 2013-14, Chapter 9 Test equ..., Parade lineup 2013-14, Zach B.

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WINDOW

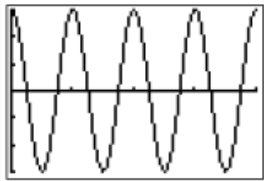
Xmin=0
Xmax=6.2831853...
Xscl=1.5707963...
Ymin=-3
Ymax=3
Yscl=1
Xres=1

Window

X	Y1
0	3
1.961	-1.961
3.922	-4.365
5.883	-2.5316
7.844	2.873
9.805	1.224
11.766	1.2725

X=0

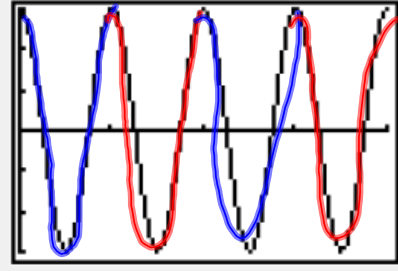
Table



Graph

Key Press History

Large Screen

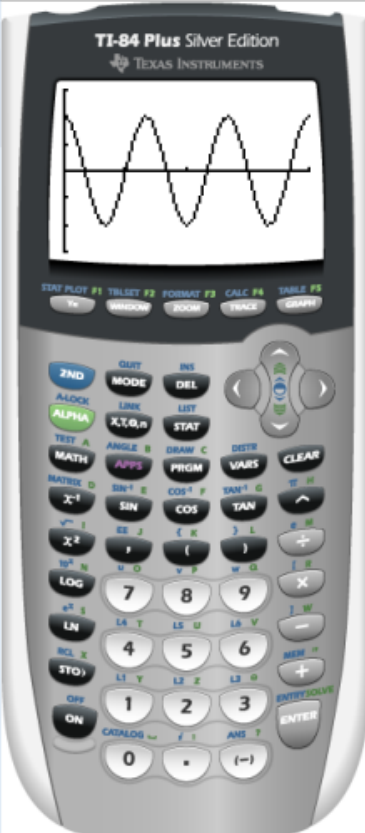


$y = 3 \cos(4\theta)$

Desktop icons: Mabbles, 4th Logic Given 2013-14, Smoking, Smoking Facts just..., End Logic Given 2013-14, Chapter 9 Test equ..., Parade lineup 2013-14, Zach B.

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WINDOW

Xmin=0
Xmax=6.2831853...
Xscl=1.5707963...
Ymin=-3
Ymax=3
Yscl=1
Xres=1

Window

X	Y1
0	2
1.98	-1.98
1.9203	1.9203
1.822	-1.822
1.6877	1.6877
1.519	-1.519
1.3206	1.3206

Table

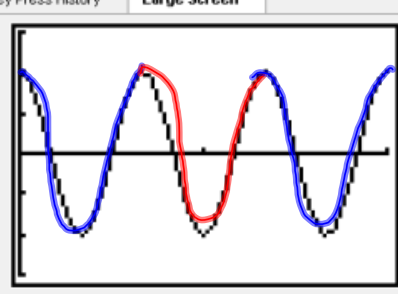
X=0

Graph

Key Press History

Large Screen

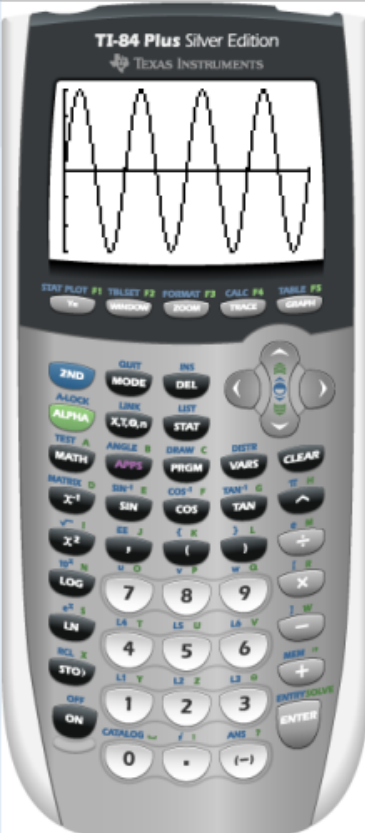
$y = 2 \cos(3\omega)$



Desktop icons: Mabbles, 4th Logic Even 2013-14, Smoking, Smoking Facts just..., End Logic Even 2013-14, Chapter 9 Test equ..., Parade lineup 2013-14, Zach B.

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WINDOW

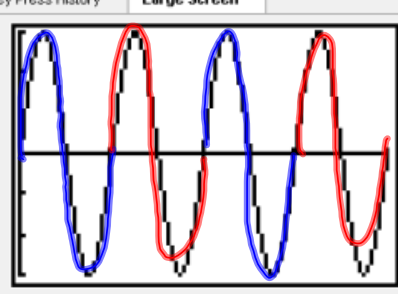
Xmin=0
Xmax=6.2831853...
Xscl=1.5707963...
Ymin=-3
Ymax=3
Yscl=1
Xres=1

Window

X	Y1
0	0
MINIMUM	-2.27
	2.9681
	-1.61
	-0.8637
	2.7388
	-2.717

X=0

Table



Key Press History

Large Screen

$y = 3 \sin(4\theta)$

Graph

Desktop icons: Mabbles, 4th Logic Given 2013-14, Smoking, Smoking Facts just..., End Logic Given 2013-14, Chapter 9 Test equ..., Parade lineup 2013-14, Zach B.

$$\textcircled{3} \quad y = 8 \sin\left(\frac{2\theta}{b} - 10\right)$$

$$\text{Amplitude} = 8$$

$$\text{Period} = \frac{360}{b} = \frac{360}{2} = 180'$$

$$\text{Phase Shift} = \frac{-c}{b} = \frac{-(-10)}{2} = 5$$

(right)

$$\textcircled{4} \quad \text{Amp} = 5$$

$$\text{Period} = 90'$$

$$\text{Phase Shift} = 8^\circ$$

$$y = 5 \sin\left(\frac{4\theta}{b} - \underline{32}\right)$$

$$\text{period} = \frac{360}{b}$$

$$\text{p.s.} = \frac{-c}{b}$$

$$\frac{90}{1} = \frac{360}{b}$$

$$\frac{8}{1} = \frac{-c}{4}$$

$$90b = 360$$

$$-c = 32$$

$$b = 4$$

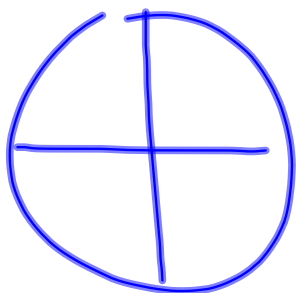
$$c = -32$$

$$\frac{\tan x \cdot \cos x}{\sin x}$$

$$\frac{\frac{\sin x}{\cancel{\cos x}} \cdot \frac{\cancel{\cos x}}{1}}{\sin x} = \frac{\sin x}{\sin x} = 1$$

$$\cos(270^\circ - \theta)$$

$$= \cos 270^\circ \cdot \cos \theta + \sin 270^\circ \cdot \sin \theta$$



270°
(0, -1)

$$0 \cdot \cos \theta + -1 \cdot \sin \theta$$

$$0 - \sin \theta$$

$$= -\sin \theta$$