GROUP NAME: C

Date: 9/11/14

Student Names (First and Last)

Speaker/Presenter: Jaquain Baldwin

Writer/Prep: Deep [illegible]

Leader/Collaborator: Benito Santos

Independant Variable (x-axis): _____

Dependant Variable (y-axis): _____

Conclusion (in words):

feet per second

Supporting Work:

$t \rightarrow$ sec

watch your step ↘

$x = 300\cos t$

$y = 300\sin t$

$z = \frac{10t}{2\pi}$

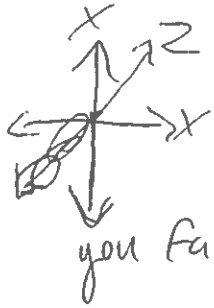
$\vec{r}(t) = \left(300\cos t, 300\sin t, \frac{10t}{2\pi}\right)$

$r'(t) = \left(-300\sin t, 300\cos t, \frac{10}{2\pi}\right)$

$t = 7\pi \quad \left(-300\sin(7\pi), 300\cos(7\pi), \frac{10}{2\pi}\right)$

vector $\rightarrow \left(0, -300, \frac{10}{2\pi}\right)$

$\sqrt{0^2 + 300^2 + \left(\frac{10}{2\pi}\right)^2} = 300$ ft/s



GROUP NAME:

Date: 9/11/2014

Student Names (First and Last)

Speaker/Presenter: Pablo

Writer/Prep: Peter

Leader/Collaborator: Connor

Independant Variable (x-axis): _____

Dependant Variable (y-axis): _____

Conclusion (in words):

Supporting Work:

Going for 5 seconds at 1 Revolution per Second, you will go 10π (when $t = 10\pi$)

$$\int_0^{10\pi} \sqrt{(100\sin t)^2 + (100\cos t)^2}\, dt$$ forget this shit

$= 3141.84$ ft

$x = 100\cos t$ $\quad x' = 100\sin t^2$

$y = 100\sin t$ $\quad y' = 100\cos t^2$

$z = \frac{10t}{2\pi}$ $\quad z' = \frac{5}{\pi}$

$$\left\langle \int_0^{10\pi} \sqrt{(100\sin t)^2}, \int_0^{10\pi} \sqrt{(100(-\cos t))^2} + \int_0^{10\pi} \sqrt{\left(\frac{5}{\pi}\right)^2} \right\rangle$$

=

~~Velocity~~ $\langle 2000, 2000, 50 \rangle$ ft/s

V:

GROUP NAME: Date:_____	Student Names (First and Last) Speaker/Presenter: _____
Independant Variable (x-axis):_____ Dependant Variable (y-axis): _____	Writer/Prep:_____ Leader/Collaborator:_____
Conclusion (in words):	

Supporting Work:

$$r(t) = \langle 100\cos t, 100\sin t, \frac{10t}{2\pi} \rangle$$

$$\int_0^{10\pi} r(t)\,dt = \langle 100\sin t, -100\cos t, \frac{10t^2}{4\pi} \rangle \Big|_0^{10\pi}$$

$$= \langle 0, 0, \frac{10}{4\pi}(10\pi)^2 \rangle$$

$$= \langle 0, 0, 250\pi \rangle$$

GROUP NAME: Three Dimensions Plus 1

Date: 09/11/2014

Student Names (First and Last)

Speaker/Presenter: Sam Adieze

Writer/Prep: Oksana Poberezhnyk

Leader/Collaborator: Xiao Zheng

Independant Variable (x-axis): _____

Dependant Variable (y-axis): _____

Conclusion (in words):

Supporting Work:

$x = 1250\cos t$

$y = 1250\sin t$

$z = 100t$

$V = \langle 1250\cos t, 1250\sin t, 100t \rangle$

$V' = \langle -1250\sin t, 1250\cos t, 100 \rangle$

$t = \frac{\pi}{2}$:

$x = 1250 \cdot \cos\frac{\pi}{2} = 0$

$y = 1250 \cdot \sin\frac{\pi}{2} = 1250$

$z = 100 \cdot \frac{\pi}{2} = 50\pi$

$V'(0) = \langle -1250 \cdot \sin(0), 1250 \cdot \cos(0), 100 \rangle$

$\langle 0, 1250, 100 \rangle$

$S = \int \sqrt{(-1250\sin^2 t) + (1250\cos^2 t) + (100)^2}$

$V = S' = \sqrt{-1250\sin^2 t + 1250\cos^2 t + 10000}$ $(t = \pi/2)$

$= \sqrt{8750}$ ft/min

≈ 93.54 ft/min

GROUP NAME: Math Busters

Date: 9/11/14

Student Names (First and Last)

Speaker/Presenter: Jason Deleon

Writer/Prep: Varun Jain

Leader/Collaborator: N/A

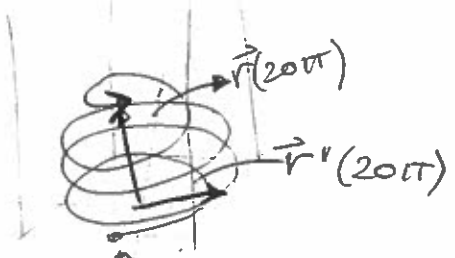
Independant Variable (x-axis): _____

Dependant Variable (y-axis): _____

Conclusion (in words):

The velocity vector function at time $t = 20\pi$ ~~seconds~~ min is $\vec{v}(t) = \vec{r}'(t) = \langle 0, 50, \frac{10}{2\pi} \rangle$. The velocity at time $t = 20\pi$ sec $= |\vec{r}'(t)| =$ 50.03 ft/~~sec~~ min

Supporting Work:



$\vec{r}(t) = \langle 50\cos t, 50\sin t, \frac{10t}{2\pi} \rangle$

$\vec{r}'(t) = \langle -50\sin t, 50\cos t, \frac{10}{2\pi} \rangle$

$\vec{r}(20\pi) = \langle 50, 0, 100 \rangle$

$\vec{r}'(20\pi) = \langle 0, 50, \frac{10}{2\pi} \rangle$

$t = \frac{20\pi}{\text{~~seconds~~ min}} = 62.8$ ~~seconds~~ minutes

@ $t = 20\pi$ ~~seconds~~ min, $\vec{v}(t) = |\vec{r}'(20\pi)| = 50.03$ ft/~~sec~~ min

GROUP NAME: Gang of Five

Date: 9/11

Student Names (First and Last)

Speaker/Presenter: Zhihao Guan,

Writer/Prep: Dom, Colin, Alex

Leader/Collaborator: Sean

Independant Variable (x-axis): _____

Dependant Variable (y-axis): _____

Conclusion (in words):

The direction you would go at first is described by the vector $\langle 10, 0, \frac{10}{2\pi} \rangle$, at

Supporting Work:

$f(r) = \langle 10\sin r, 10\cos r, \frac{10r}{2\pi} \rangle$. 6 floors

Let r = radians of orbit around building cente

At top of building, $r = 12\pi$

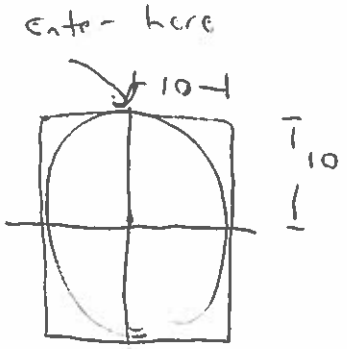
$\therefore$

$f(12\pi) = \langle 0, 10, 60 \rangle \rightarrow$ Hole Located Here

$f'(r) = \langle 10\cos r, -10\sin r, \frac{10}{2\pi} \rangle$

$f'(12\pi) = \langle 10, 0, \frac{10}{2\pi} \rangle \rightarrow \sqrt{10^2 + (\frac{10}{2\pi})^2} = 10.13$

10.13 m/sec



GROUP NAME: Civil Doctors

Date: 9/11/2014

Student Names (First and Last)

Speaker/Presenter: Lauren Dobo

Writer/Prep: Jon Gaskill

Leader/Collaborator: Sneha Rangu

Independant Variable (x-axis): _____

Dependant Variable (y-axis): _____

Conclusion (in words): The velocity is going up at $\langle 0, -50, \frac{10}{\pi} \rangle$ ft/min.

Supporting Work:

$\vec{r}(t) = \langle -50\cos t, 50\sin t, \frac{10t}{\pi} \rangle$

$\vec{v}(t) = \langle 50\sin t, 50\cos t, \frac{10}{\pi} \rangle$

$\vec{v}(0) = \langle 50\sin(0), 50\cos(0), \frac{10}{\pi} \rangle$

$\vec{v}(0) = \langle 0, 50, \frac{10}{\pi} \rangle$ ft/min

Velocity is going up for zero.

$\vec{v}(\pi) = \langle 50\sin(\pi), 50\cos(\pi), \frac{10}{\pi} \rangle$

$\vec{v}(\pi) = \langle 0, -50, \frac{10}{\pi} \rangle$ ft/min