GROUP NAME: Team [illegible]	**Student Names (First and Last)**
Logo:	**Speaker/Presenter:**
Date: [illegible]	**Writer/Prep:**
Topics:	**QC/Leader:** Javier Blanco

Instructions: 2

a) A [illegible]
B(1, [illegible], 5)
C(3, -2, 1)

$\overline{AB}\langle 1, 2, 3\rangle$
$\overline{AC}\langle 3, -2, 1\rangle$

$\cos\theta = \frac{\overline{AB} \cdot \overline{AC}}{|B| \times |A|}$ $\cos\theta = \frac{3 + (-4) + 3}{[illegible]}$

$\theta = \frac{1}{7}$

b) $\overline{AB} \times \overline{AC}$ = [illegible] Plane

$$\begin{vmatrix} i & j & k \\ 1 & 2 & 3 \\ 3 & -2 & 1 \end{vmatrix}$$

$2 - (-6)i$, $(1 - 1)j$, $-2 - 6k$

$8x + 8y - 8z = 0$

GROUP NAME:	Student Names (First and Last)
Logo:	Speaker/Presenter:
Date:	Writer/Prep: Gary Gruenling
Topics:	QC/Leader:

Instructions: $A(1,2,0) \rightarrow B(6,0,1)$

$C(3,-2,1)$

3

$r(t) = \langle 3-2t, -2+2t, 2t+1 \rangle$

$\vec{AB} = \langle 5, 0, 1 \rangle$

$(1,2,0) + s\langle 5,0,1 \rangle$

$\langle 5s+1, 2, s \rangle$

$3-2t = 5s+1$

$3-2(2) = 5(5)+1$

$-1 \neq 26$

$3-2t = 1+5s$

$2 = -2+2t$

$t = 2$

$5 = 2t+1$

$5 = 5$

Paths do not cross

GROUP NAME:	Student Names (First and Last)
Logo:	Speaker/Presenter:
Date: 10/22	Writer/Prep: Shawnee
Topics:	QC/Leader:

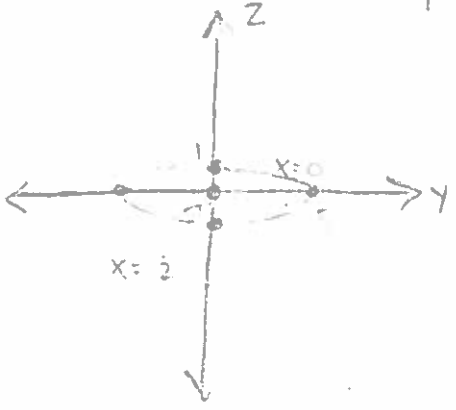
Instructions: 4

$\frac{x^2}{4} + \frac{y^2}{25} + z^2 = 1$ $x = 0, 2, \text{and } 4$

$x = 0$ $\frac{0^2}{4} + \frac{y^2}{25} + z^2 = 1 \rightarrow \frac{y^2}{25} + z^2 = 1$

$x = 2$ $\frac{2^2}{4} + \frac{y^2}{25} + z^2 = 1 \rightarrow \frac{y^2}{25} + z^2 = 0$

$x = 4$ $\frac{4^2}{4} + \frac{y^2}{25} + z^2 = 1 \rightarrow \frac{y^2}{25} + z^2 = -3$



a) $\frac{a^2}{16} - \frac{b^2}{9} - \frac{c^2}{4} = 0$ elliptic cone

b) $-\frac{a^2}{16} + \frac{b^2}{9} - \frac{c^2}{4} = -1$ paraboloid

c) $\frac{5x^2}{16} - \frac{y^2}{4+1} - \frac{2+z^2}{4} = 1$ 2 sheet hyp

GROUP NAME:	Student Names (First and Last)
Logo:	Speaker/Presenter:
Date:	Writer/Prep: Dan
Topics:	QC/Leader:

Instructions:

5

$r(t) = 450\cos t\,\hat{i} + 450\sin t\,\hat{j} + \frac{500t}{\pi}\hat{k}$

$r'(t) = \langle -450\sin t, 450\cos t, \frac{500}{\pi} \rangle$

$|r'(t)| = \sqrt{(450)^2 + \left(\frac{500}{\pi}\right)^2} = 477.3157$

distance:

$\int_0^{10\pi} |r'(t)|\,dt = \int_0^{10\pi} 477.3157\,dt =$ 14995.32 feet

speed at $t = 10\pi$:

$|r'(10\pi)| =$ 477.3157 feet/sec

velocity at $t = 10\pi$:

$r'(10\pi) = \langle 0, 450, \frac{500}{\pi} \rangle \rightarrow$

GROUP NAME: Pigus h Purvi Logo:	Student Names (First and Last) Speaker/Presenter: _____
Date: _____ Topics:	Writer/Prep: _____ QC/Leader: _____

Instructions:

6

6. Find the limit as (x,y) goes to $(0,0)$ along the paths $x=0$ and $y=x$ for $f(x,y) = \frac{2x-9y^2}{9x^2-2y}$

a.) $x=0$ $\lim_{(0,y)\to(0,0)}$ $\frac{2(0)-9y^2}{9(0)^2-2y} = \lim_{y\to 0} \frac{-9y}{-2} = 0$

b.) $y=x$ $\lim_{(x,x)\to(0,0)}$ $\frac{2x-9x^2}{9x^2-2x} \Rightarrow \lim_{x\to 0} \frac{x(2-9x)}{x(9x-2)} \Rightarrow \frac{2}{-2} \Rightarrow -1$

- Since the two limits are not equal, the limit DNE.

- not continuous

- you cannot add another functions.

GROUP NAME: 42 Logo:	Student Names (First and Last) Speaker/Presenter: Kyle
Date: Topics:	Writer/Prep: QC/Leader:

Instructions:

7

Given $g(x,y) = \cos y e^{7x}$ and $x(u,v) = 2u+5v$ and $y(u,v) = 3u-2v$

Find $\frac{\partial g}{\partial y}$, $\frac{\partial g}{\partial x}$, $\frac{\partial x}{\partial u}$, $\frac{\partial y}{\partial u}$, and $\frac{\partial g}{\partial u}$ in terms of u and v

$$\frac{\partial g}{\partial y} = -\sin y e^{7x} = -\sin(3u-2v)e^{7(2u+5v)}$$

$$\frac{\partial g}{\partial x} = 7\cos y e^{7x} = 7\cos(3u-2v)e^{7(2u+5v)}$$

$$\frac{\partial x}{\partial u} = 2$$

$$\frac{\partial y}{\partial u} = 3$$

$$\frac{\partial g}{\partial u} = \frac{\partial g}{\partial x}\cdot\frac{\partial x}{\partial u} + \frac{\partial g}{\partial y}\cdot\frac{\partial y}{\partial u} = 14\cos(3u-2v)e^{7(2u+5v)} - 3\sin(3u-2v)e^{7(2u+5v)}$$

GROUP NAME:	Student Names (First and Last)
Logo:	Speaker/Presenter:
Date: 10/22/13	Writer/Prep: Olga Svitlik
Topics: Midterm Practice	QC/Leader:

Instructions:

$\frac{\partial E}{\partial M}$ $\frac{\partial E}{\partial C}$ 8

$E = MC^2$

$dE = EM\,dM + Ec\,dC$

$M = 8.1$ $\quad dm = \pm 0.05$

$C = 24.$ $\quad dc = \pm 0.05$

$EM = C^2$

$Ec = 2MC$

$dE = C^2\,dm + 2MC\,dc$

$dE = (24)^2(\pm 0.05) + 2(8.1)(24)(\pm 0.5) = \pm$ [illegible]
$= 223.2$

$dE = \frac{\partial E}{\partial M}\,dM + \frac{\partial E}{\partial C}\,dC$

$E = (8.1)(24)^2 =$ [illegible]
$= 4665.6$
± 223.2

GROUP NAME: Bi	Student Names (First and Last)
Logo:	Speaker/Presenter:
Date:	Writer/Prep:
Topics:	QC/Leader:

Instructions: 9

(a) $f(x,y,z) = x^3 - 2x^2y + 10y^3 - z^2$

$\frac{\partial f}{\partial x} = 3x^2 - 4xy$, $\frac{\partial f}{\partial y} = -2x^2 + 30y^2$

$\frac{\partial y}{\partial x} = -\frac{\frac{\partial f}{\partial x}}{\frac{\partial f}{\partial y}} = -\frac{[3x^2 - 4xy]}{[-2x^2 + 30y^2]}$

(b) $f(x,y,z) = x^3 - 2x^2y + 10y^3 - z^2$

$\frac{\partial f}{\partial x} = 3x^2 - 4xy$, $\frac{\partial f}{\partial y} = -2x^2 + 30y^2$

$\frac{\partial f}{\partial z} = -2z$. $f_x(x-x_0) + f_y(y-y_0) + f_z(z-z_0) = 0$

$(3x^2 - 4xy)(x-1) + (-2x^2 + 30y^2)(y-1) - (2z)(z-3) = 0$

$(3-4)(x-1) + (-2+30)(y-1) - (2z)(z-3) = 0$

$-x + 28y - 6z = -9$

$x - 28y + 6z = -9$

GROUP NAME:	**Student Names (First and Last)**
Logo:	**Speaker/Presenter:**
Date:	**Writer/Prep:**
Topics:	**QC/Leader:**

Instructions:

10

$|\langle 1,-1\rangle| = \sqrt{2}$.

GROUP NAME:	**Student Names (First and Last)**
Logo:	**Speaker/Presenter:**
Date:	**Writer/Prep:** Chris
Topics:	**QC/Leader:**

Instructions: For Eq $z = 32 - x^4 + 16xy - y^4$ Find all critical values

$f_x = -4x^3 + 16y = 0$

$x = 0$ $\Rightarrow x = y$

$-x^3 + 4y = 0$

$x^3 - 4y = 0$

$x(x^2 - 4) = 0$

$x(x+2)(x-2) = 0$

$x = 0, 2, -2$

$(-2,-2)$

$f_{xx}(2,2) = (-)$ MAX

$f_{xx}(-2,-2) = (-)$ MAX

Min

$f(1,2) = 47$

$f(0,2) = 16$

GROUP NAME:	Student Names (First and Last)
Logo:	Speaker/Presenter:
Date:	Writer/Prep: Min Sup Oh
Topics:	QC/Leader:

Instructions:

12

7) $x \cdot y \cdot z = 125$ & $x + y + z = f$

$f = x + y + z$ $\quad z = \frac{125}{xy}$

$f = x + y + \frac{125}{xy}$

$f_x = 1 + \frac{125}{y}(-x^{-2}) = 0$ $\quad y = \frac{125}{f^2}$

$f_y = 1 + \frac{125}{x}(-y^{-2}) = 0$ $\quad x = \frac{125}{y^2}$

$x = y$

GROUP NAME: 42

$42_{13} = 6_{13} \times 9_{13}$ Douglas Adams does not pun in base 13!

Logo:

Student Names (First and Last)

Speaker/Presenter: Not to be Trusted (only tells lies)

Date: Tomorrow

Topics:

Writer/Prep: Ben, only tells the truth

QC/Leader: Redacted to protect the Innocent

Instructions:

13

(1) $R = \{0<x<2\} \times \{1<y<5\}$ $\iint_R (x^2+4xy)\,dA$

(1) $\int_1^5 \frac{x^3}{3} + 2x^2 y \Big|_0^2 dy$

$\int_1^5 \left(\frac{8}{3} + 8y\right) dy$

$\left(\frac{8y}{3} + 4y^2\right)\Big|_1^5$

$\frac{40}{3} + 100 - \frac{8}{3} - 4$

$\frac{32}{3} + 96 - \frac{320}{3}$

(2) $\int_{-1}^{2}\int_{3}^{4} (3x+5y)\,dy\,dx$

$\int_{-1}^{2} 3xy + \frac{5}{2}y^2 \Big|_3^4 dx$

$\int_{-1}^{2} \left(12x - 9x + 40 - \frac{45}{2}\right) dx$

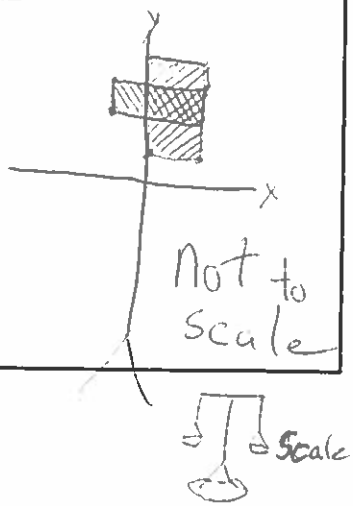
$\int_{-1}^{2} \left(3x + \frac{35}{2}\right) dx$

$\frac{3x^2}{2} + \frac{35x}{2}\Big|_{-1}^{2}$

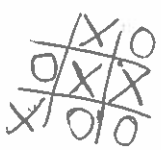
$\frac{12 + 70 - 3 + 35}{2} = 57$

(1) The volume under the surface bounded by the region

(3)



Scale



Tie!