

Math 126 Exam

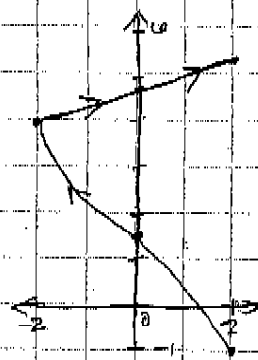
CELESTINE JOHNSON

1/9/2007

10.1 HU

2.

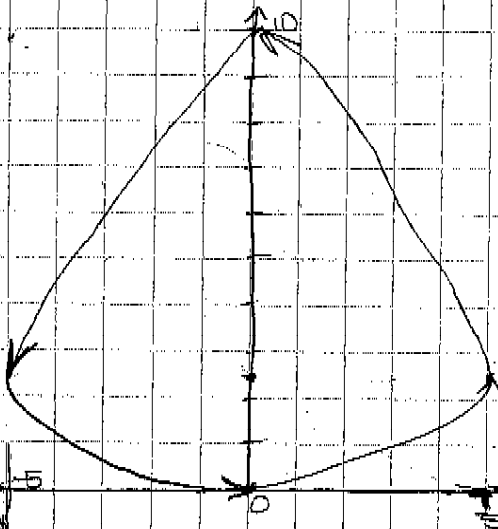
t	x	y
0	2	-1
$\pi/2$	0	$\pi/2$
π	-2	4.142
$3\pi/2$	0	4.712
2π	2	5.283



GRADER 2, 26, 44, 4
20 = 5 + 5 + 7 + ...

3

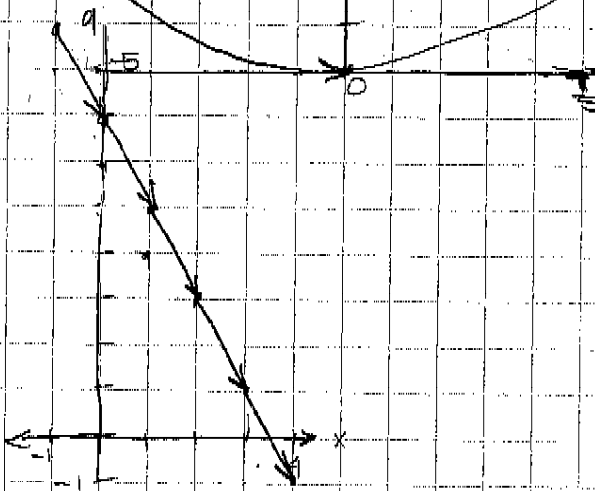
t	x	y
$-\pi$	0	$\pi/2 \approx 9.9$
$-\pi/2$	-5	$\pi \approx 2.5$
0	0	0
$\pi/2$	5	$\pi \approx 2.5$
π	0	$\pi/2 \approx 9.9$



~~2~~
44
26
710

6a

t	x	y
-2	-1	9
-1	0	7
0	1	5
1	2	3
2	3	1
3	4	-1



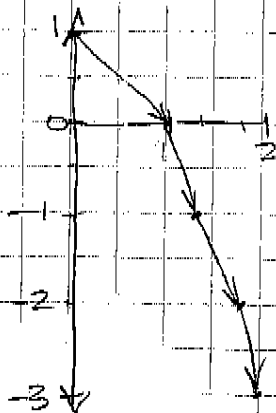
6b

$$x = 1 + t \quad y = 5 - 2t \quad t = x - 1$$

$$y = 5 - 2(x - 1) \quad y = 5 - 2x + 2 \quad y = 7 - 2x$$

9a

t	x	y
0	0	1
1	1	0
2	$\sqrt{2}$	-1
3	$\sqrt{3}$	-2
4	2	-3

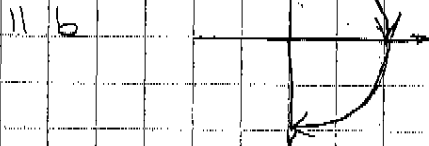


9b $t = x^2$ $x \geq 0$
 $y = 1 - x^2$ $x \geq 0$

11a $x = \sin \theta$ $y = \cos \theta$ $0 \leq \theta \leq \pi$

$y^2 + x^2 = \sin^2 \theta + \cos^2 \theta = 1$
 $y^2 + x^2 = 1$ $x^2 = 1 - y^2$
 $x = \pm \sqrt{1 - y^2}$

$x = \pm \sqrt{1 - y^2}$ $0 \leq \theta \leq \pi = \text{upper half}$



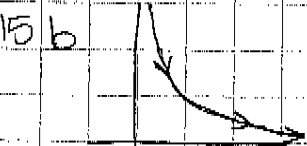
13a $x = \sin^2 \theta$ $y = \cos^2 \theta$

$x + y = \sin^2 \theta + \cos^2 \theta = 1$ $x + y = 1$ $y = 1 - x$



15a $x = e^t$ $y = e^{-t}$ $\ln x = t$ $y = \frac{1}{e^{\ln x}} = \frac{1}{x}$

$y = \frac{1}{x}$	$x > 0$	t	-1	0	1	$x \neq 0$
		x	$\frac{1}{e}$	1	e	never negative
		y	e	1	$\frac{1}{e}$	never negative



2A a = III $1 \leq x \leq 2$ $-1 \leq y \leq 1$

b = I periodic $-2 \leq x \leq 2$ $-2 \leq y \leq 2$

c = IV $-2 \leq x \leq 2$ $0 \leq y \leq 2$ semicircle

d = V Pointy not periodic $-2 \leq x \leq 2$ $-2 \leq y \leq 2$

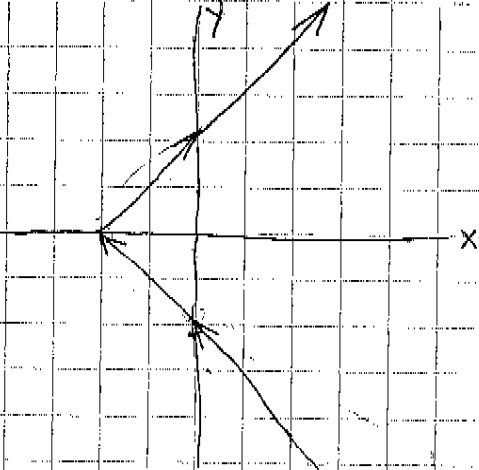
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$-1 \leq x \leq \infty$

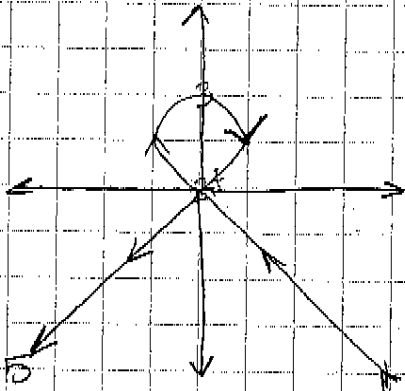
$-\infty \leq y \leq \infty$

$x = t^2 - 1$

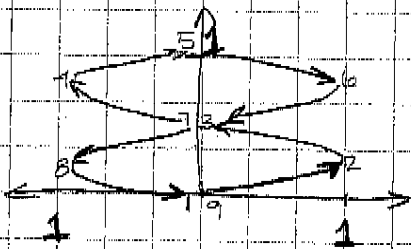
$y = t^3$



(26)



27



28

a. x is cubic y is quadratic IV

b. x is cubic $(-\infty, \infty)$ y is quad $(-\infty, 2]$ VI

c. x and y periodic V

d. positive constant and ^{oddly} periodic climbing III

e. evenly periodic and closed I

f. oddly periodic possibly closed II