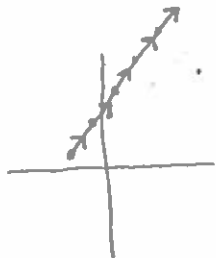


Section 10.2 Parametric Equations

Page 703 #'s 1 - 15 odd

1) $x = 2t - 3$ $y = 3t + 1$

t	0	1	2	3	4
x	-3	-1	1	3	5
y	1	4	7	10	13



$$x = 2t - 3$$

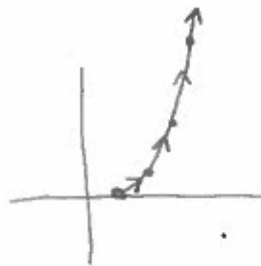
$$t = \frac{x+3}{2}$$

$$y = 3\left(\frac{x+3}{2}\right) + 1$$

$$y = \frac{3}{2}x + 5.5$$

3) $x = t + 1$ $y = t^2$

t	0	1	2	3
x	1	2	3	4
y	0	1	4	9



$$x = t + 1$$

$$t = x - 1$$

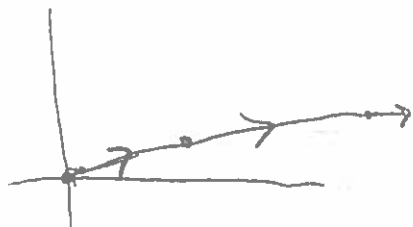
$$y = t^2$$

$$y = (x-1)^2$$

$$y = x^2 - 2x + 1$$

5) $x = t^3$ $y = \frac{t^2}{2}$

t	0	1	2	3
x	0	1	8	27
y	0	1/2	2	4.5



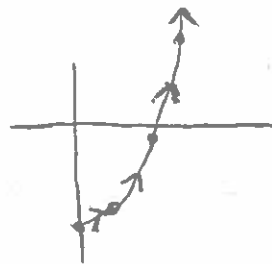
$$t = x^{1/3}$$

$$y = \frac{(x^{1/3})^2}{2}$$

$$y = \frac{x^{2/3}}{2}$$

7) $x = \sqrt{t}$ $y = t - 5$

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



$$x = \sqrt{t}$$

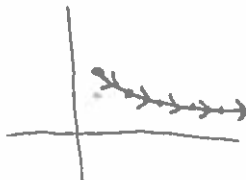
$$t = x^2$$

$$y = (x^2) - 5$$

$$y = x^2 - 5$$

9) $x = t - 3$ $y = \frac{t}{t-3}$

t	4	5	6	7	8
x	1	2	3	4	5
y	4	5/2	2	7/4	8/5



$x = t - 3$ $y = \frac{(x+3)}{(x+3)-3}$
 $t = x + 3$ $y = \frac{x+3}{x}$

$y = 1 + \frac{3}{x}$

13) $x = e^t$ $y = e^{3t} + 1$

t	-2	-1	0	1
x	.135	.367	1	2.7
y	1.003	1.05	2	21.09



$x = e^t$ $y = e^{3 \ln x} + 1$
 $\ln x = t$ $y = e^{\ln x^3} + 1$
 $y = x^3 + 1$

11) $x = 2t$ $y = |t - 2|$

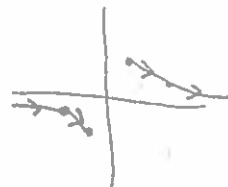
t	-2	-1	0	1	2	3
x	-4	-2	0	2	4	6
y	4	3	2	1	0	1



$x = 2t$ $y = \left| \left(\frac{x}{2} \right) - 2 \right|$
 $t = \frac{x}{2}$ $y = \left| \frac{1}{2}x - 2 \right|$

15) $x = \sec \theta = \frac{1}{\cos \theta}$ $y = \cos \theta$
 $0 \leq \theta < \frac{\pi}{2}$ $\frac{\pi}{2} < \theta \leq \pi$

t	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	π
x	1	$\frac{1}{\sqrt{2}}$	∞	$-\infty$	$-\frac{1}{\sqrt{2}}$
y	1	$\frac{\sqrt{2}}{2}$	0	0	$-\frac{\sqrt{2}}{2}$



$\sec \theta \cdot \cos \theta = 1$

$x \cdot y = 1$

$y = \frac{1}{x}$