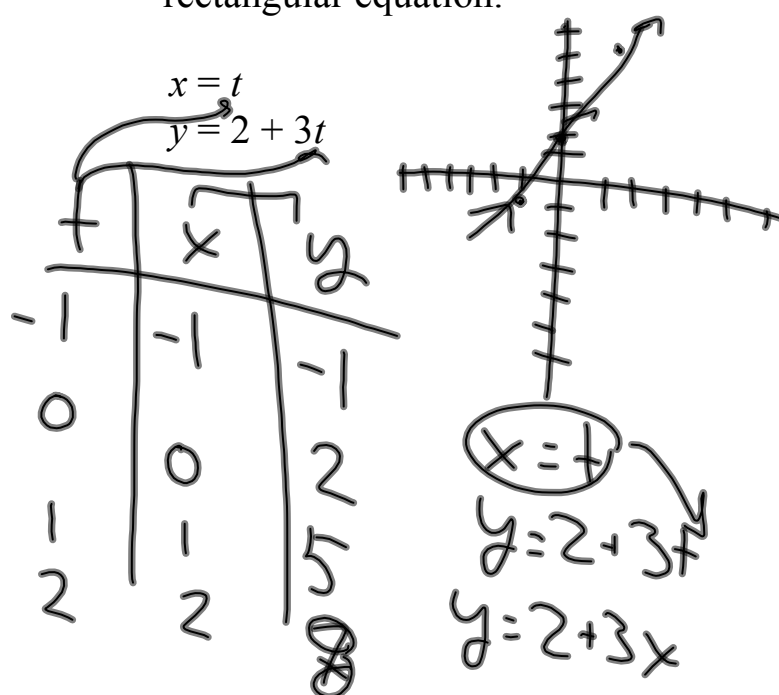


9-5 PARAMETRIC EQUATIONS

$$x = f(t)$$

$$y = g(t)$$

Ex 1 Make a table of values to assist in sketching a graph of the parametric equations. Then write the corresponding rectangular equation.

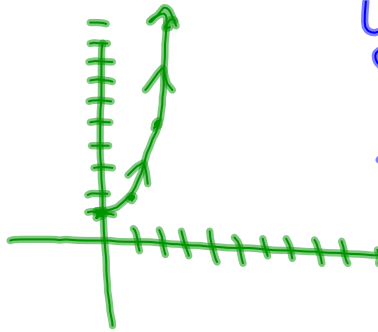


Ex 2 Make a table of values to assist in sketching a graph of the parametric equations. Then write the corresponding rectangular equation.

$$x = \sqrt{t} \rightarrow x^2 = t$$

$$y = 1 + t$$

t	x	y
0	0	1
1	1	2
4	2	5
9	3	10



$$y = 1 + x^2$$

$$x \geq 0$$

Ex 3 Make a table of values to assist in sketching a graph of the parametric equations. Then write the corresponding rectangular equation.

$$x = \cos \theta$$

$$y = 3 \sin \theta$$

$$\sin \theta = \frac{y}{3}$$

$$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$$

θ	x	y
0°	1	0
12°	.98	.62
45°	.7	2.1
60°	.5	2.6
90°	0	3
180°	-1	0



$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$\frac{y^2}{9} + \frac{x^2}{1} = 1$$

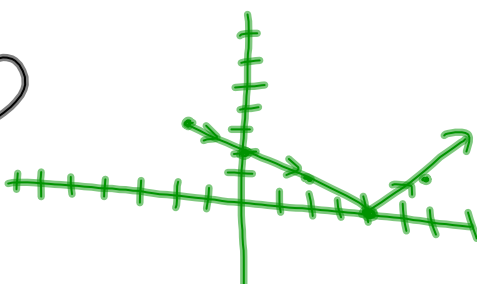
$$\left(\frac{y}{3}\right)^2 + (x)^2 = 1$$

Ex 4 Make a table of values to assist in sketching a graph of the parametric equations. Then write the corresponding rectangular equation.

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

$$x = 2t$$

$$y = |t - 2|$$



t	x	y
-1	-2	3
0	0	2
1	2	1
2	4	0
3	6	1
4	8	2
5	10	3

$$y = \left| \frac{x}{2} - 2 \right|$$

$$y = \frac{1}{2} |x - 4|$$

Homework

p.705

#11-19

