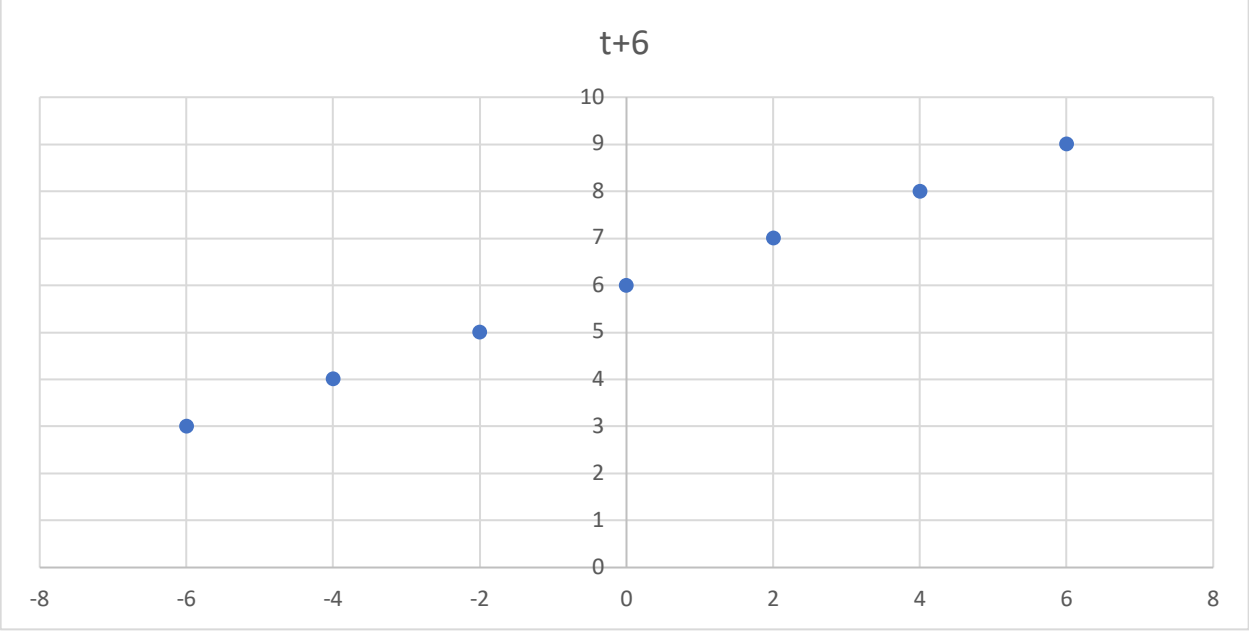
Parametric Equations

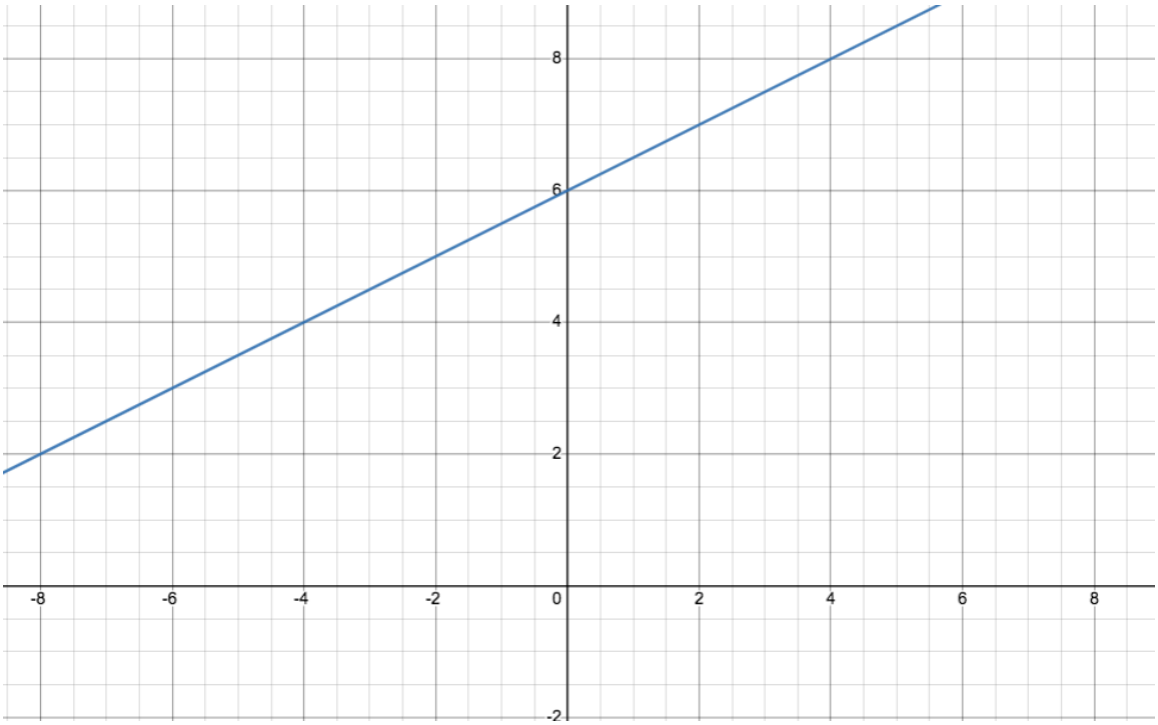
$$x = f(t)$$
$$y = g(t)$$
$$t \in I$$

Determine and graph the Rectangular Coordinate representation for the following parametric equations.

1. $x=2t$
   $y=t+6$

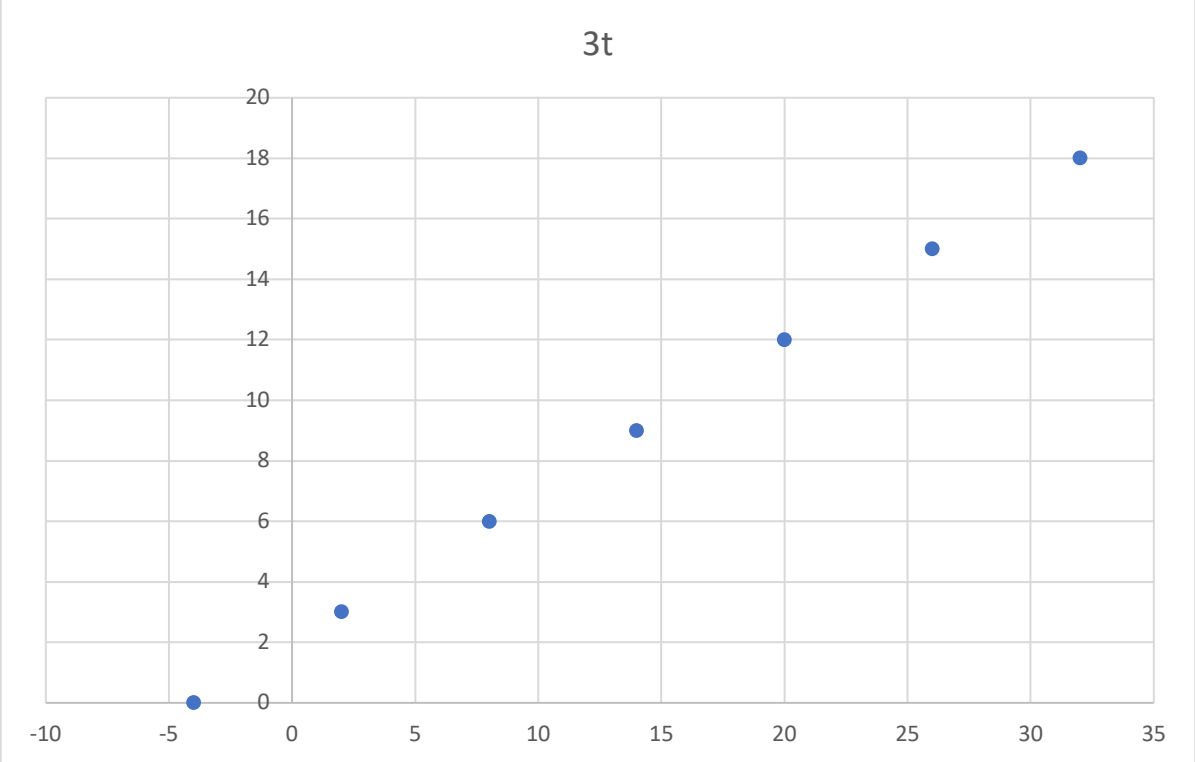
	x	y
t	2t	t+6
-3	-6	3
-2	-4	4
-1	-2	5
0	0	6
1	2	7
2	4	8
3	6	9

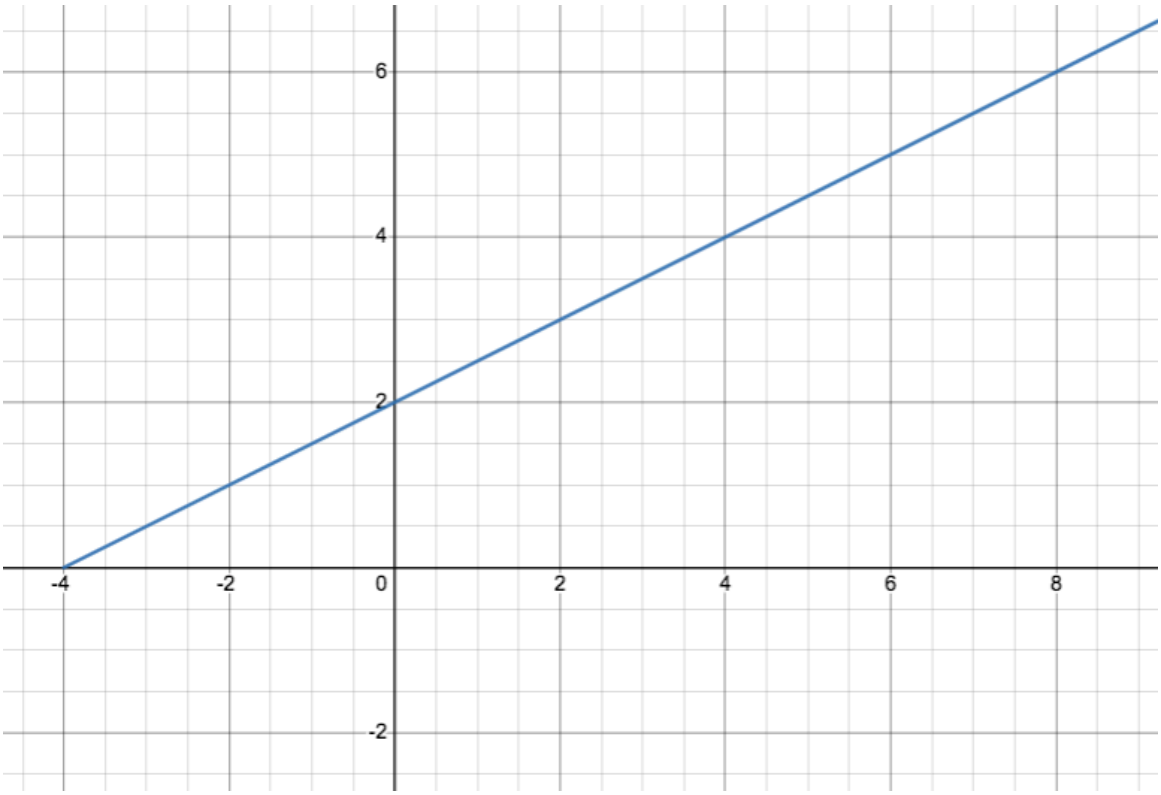



8
6
4
2
-2
-8
-6
-4
-2
0
2
4
6
8

2. $x=6t-4$
$y=3t$
$t\geq 0$

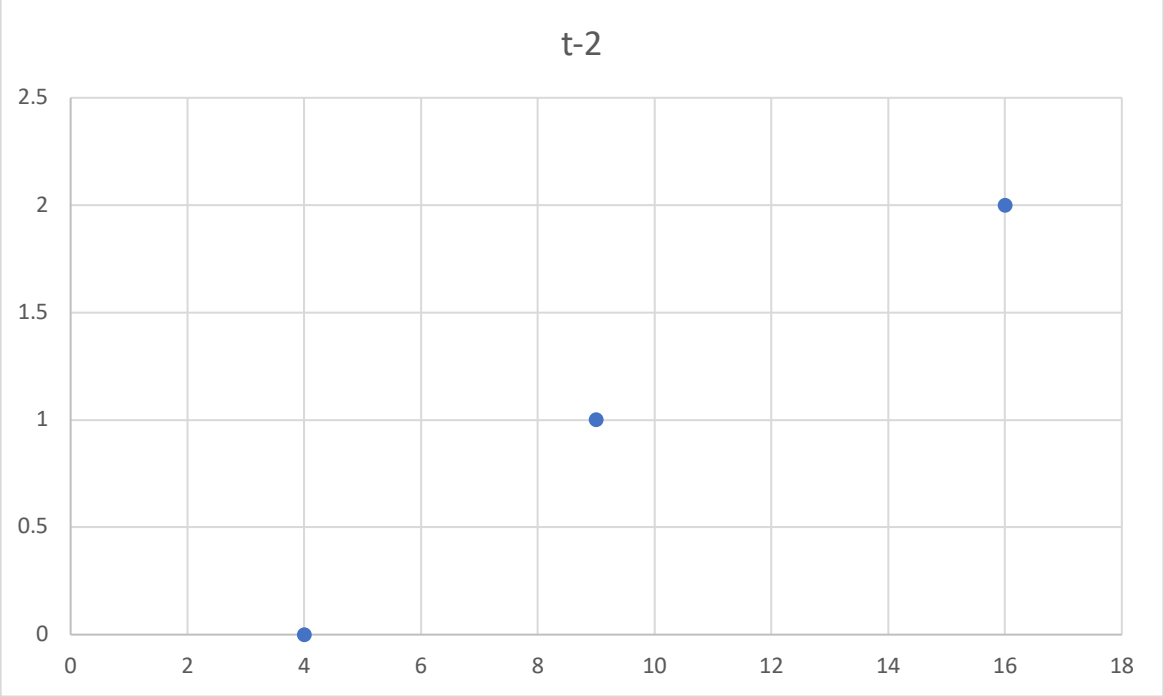
	x	y
t	6t-4	3t
0	-4	0
1	2	3
2	8	6
3	14	9
4	20	12
5	26	15
6	32	18

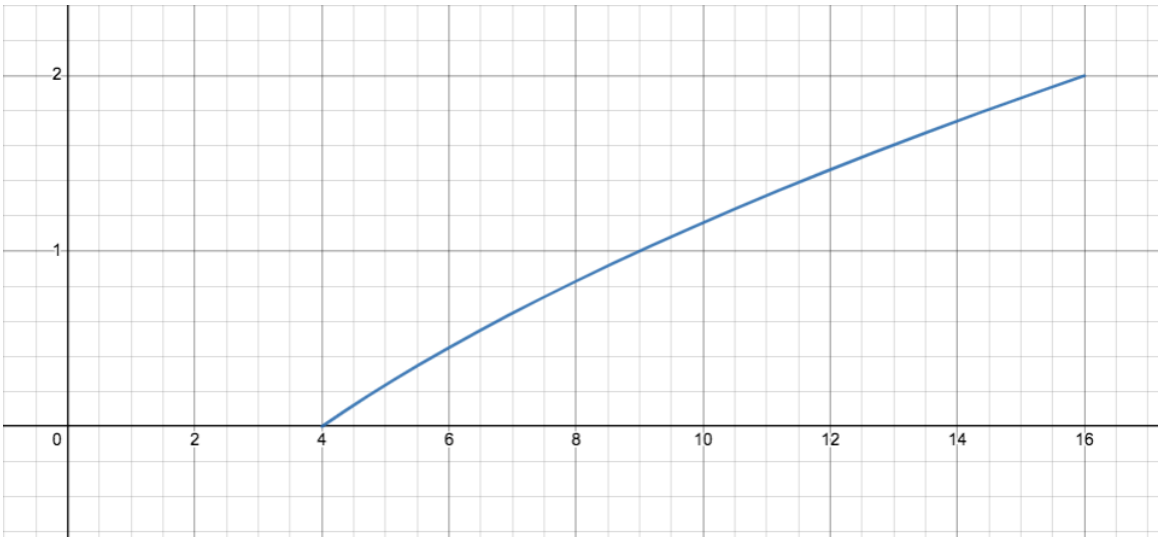



6
4
2
-2
-4
-2
0
2
4
6
8

3. $x=t^2$
$y=t-2$
$2\leq t\leq 4$

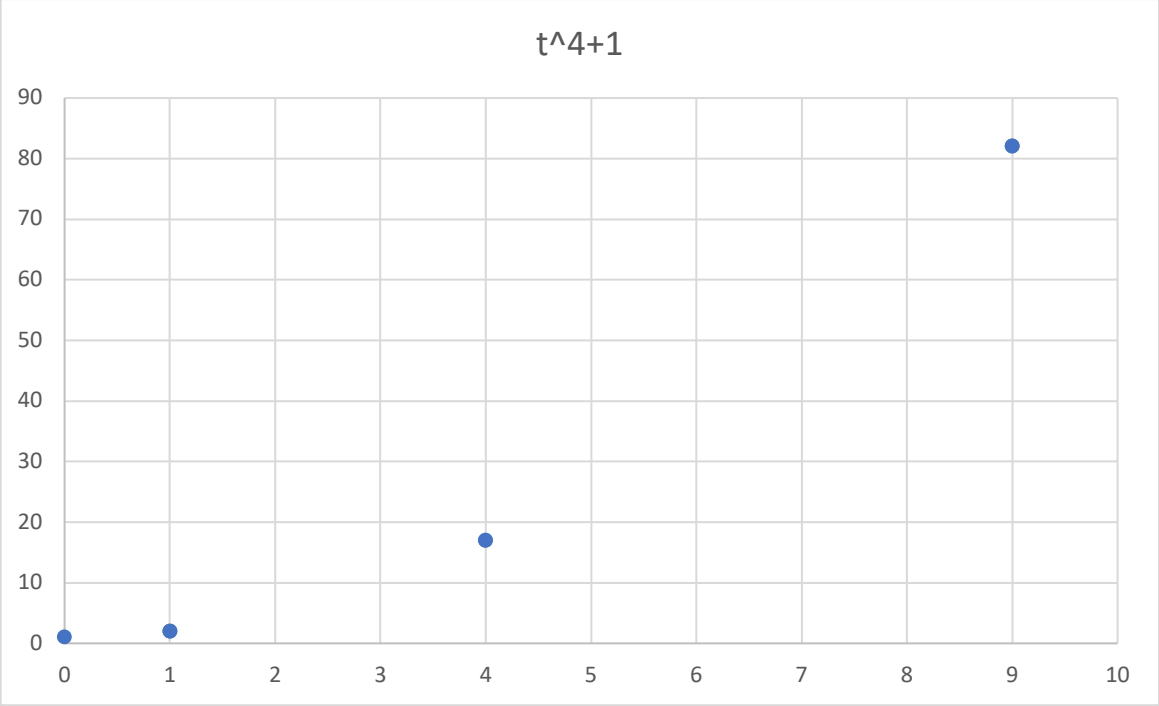
	x	y
t	t^2	t-2
2	4	0
3	9	1
4	16	2

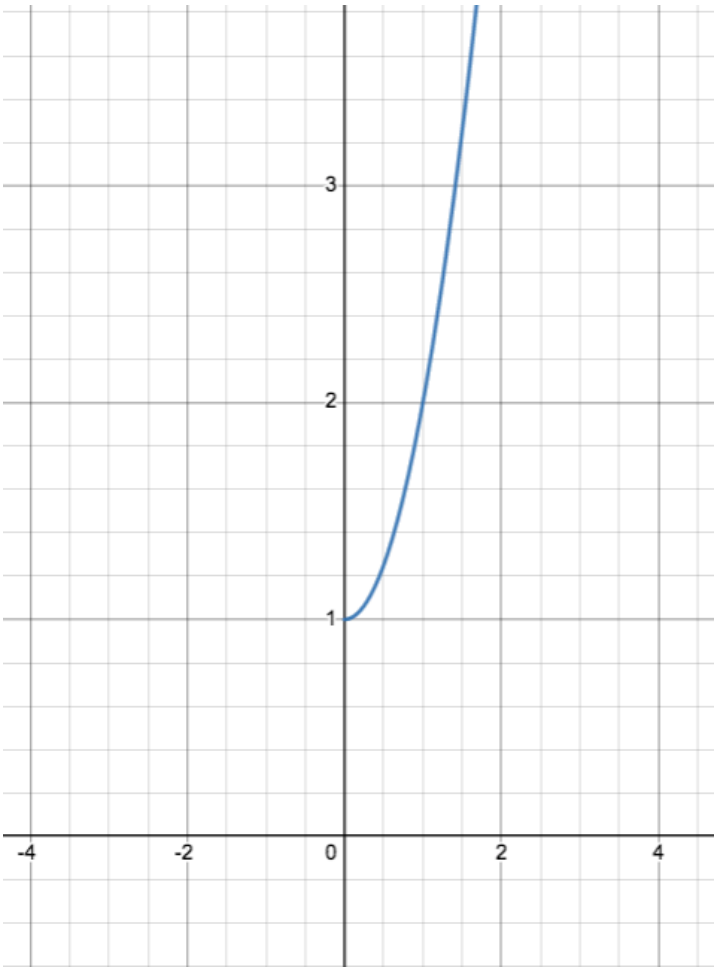



2
1
0
2
4
6
8
10
12
14
16

4. $x=t^2$
$y=t^4+1$

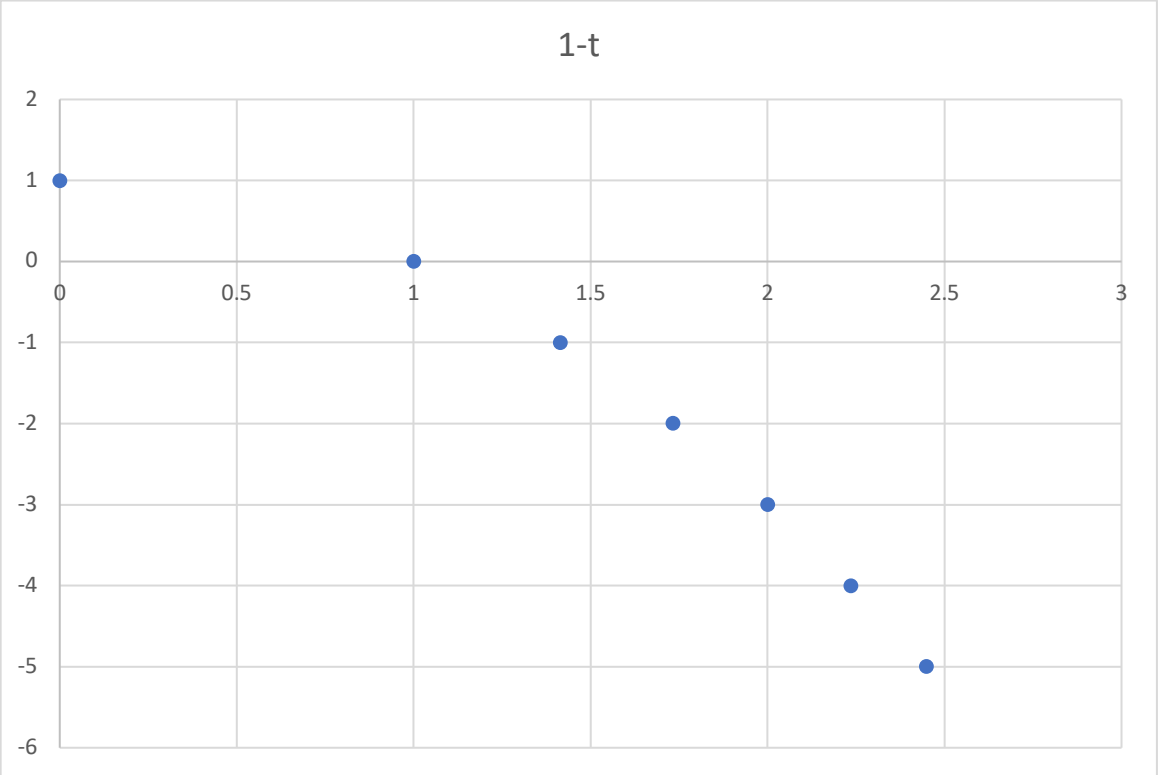
	x	y
t	t^2	t^4+1
-3	9	82
-2	4	17
-1	1	2
0	0	1
1	1	2
2	4	17
3	9	82

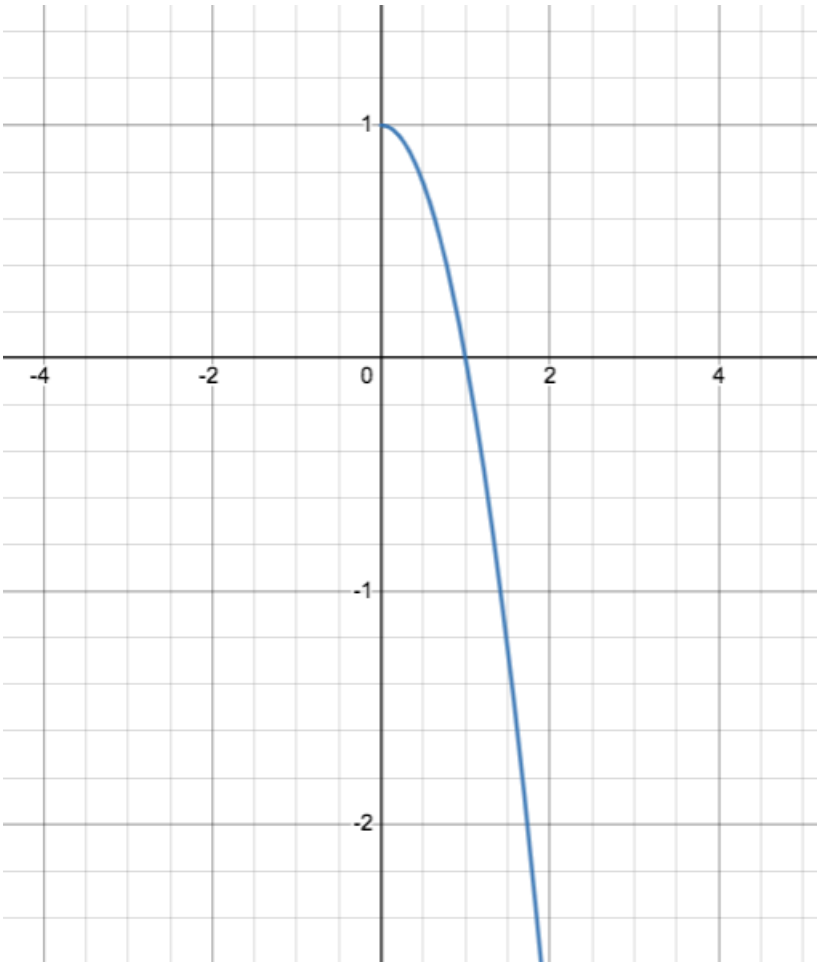



3
2
1
-4
-2
0
2
4

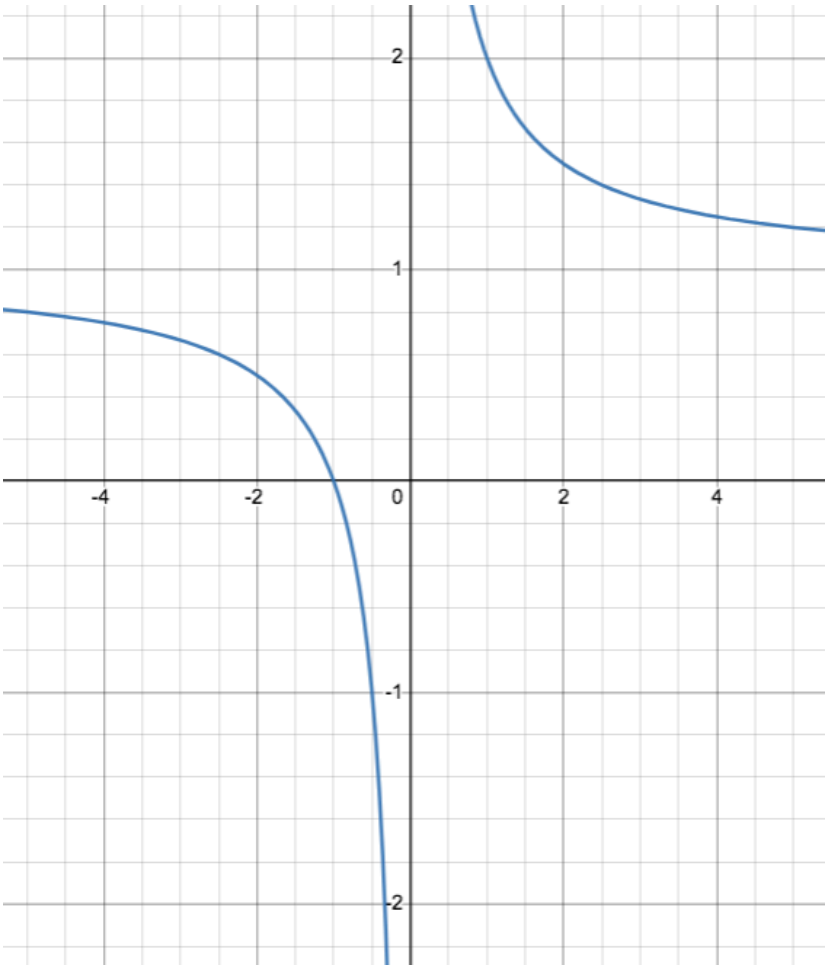
5. $x=\sqrt{t}$
$y=1-t$

	x	y
t	t^.5	1-t
0	0	1
1	1	0
2	1.414214	-1
3	1.732051	-2
4	2	-3
5	2.236068	-4
6	2.44949	-5

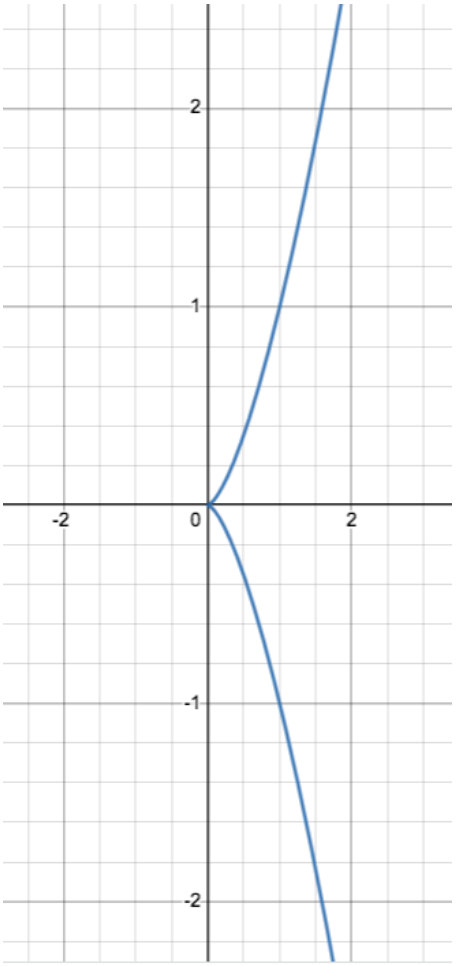



1
-4
-2
0
2
4
-1
-2

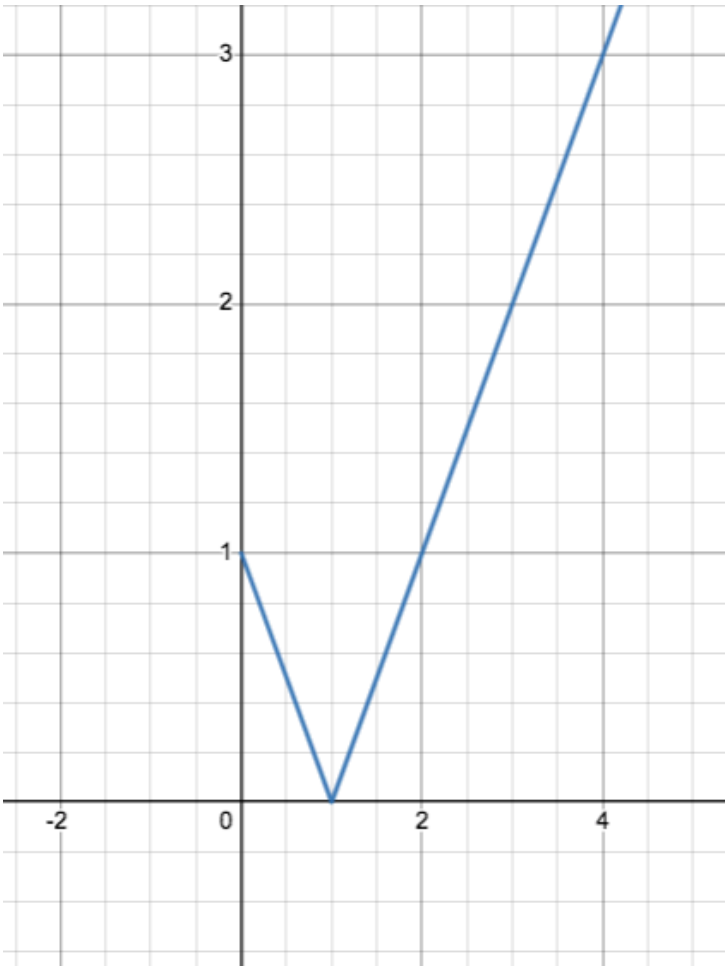
6. $\begin{matrix} x=\frac{1}{t} \\ y=t+1 \end{matrix}$



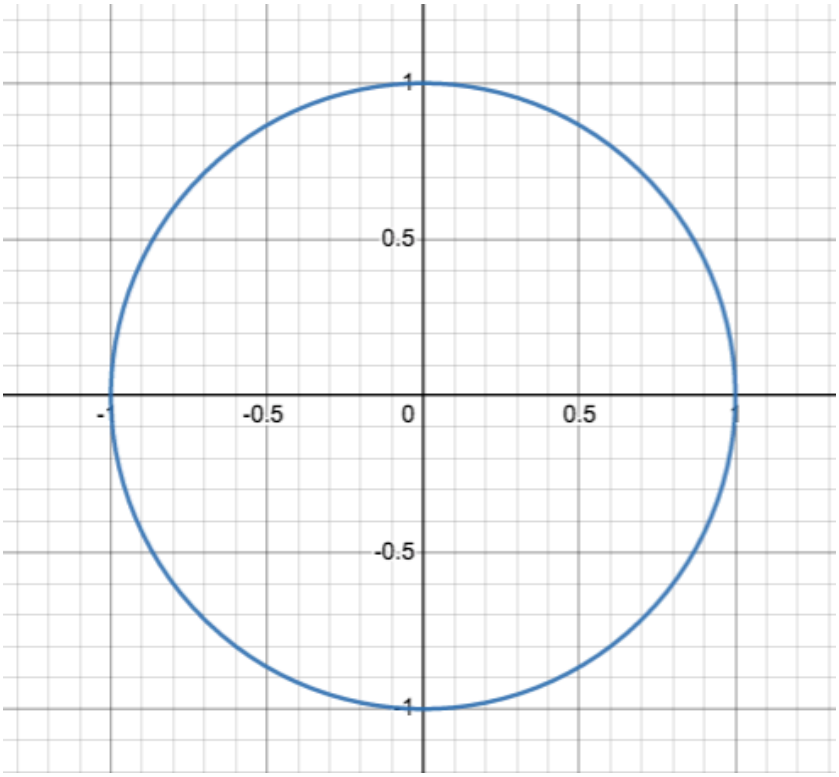
7. $x=4t^2$
$y=8t^3$



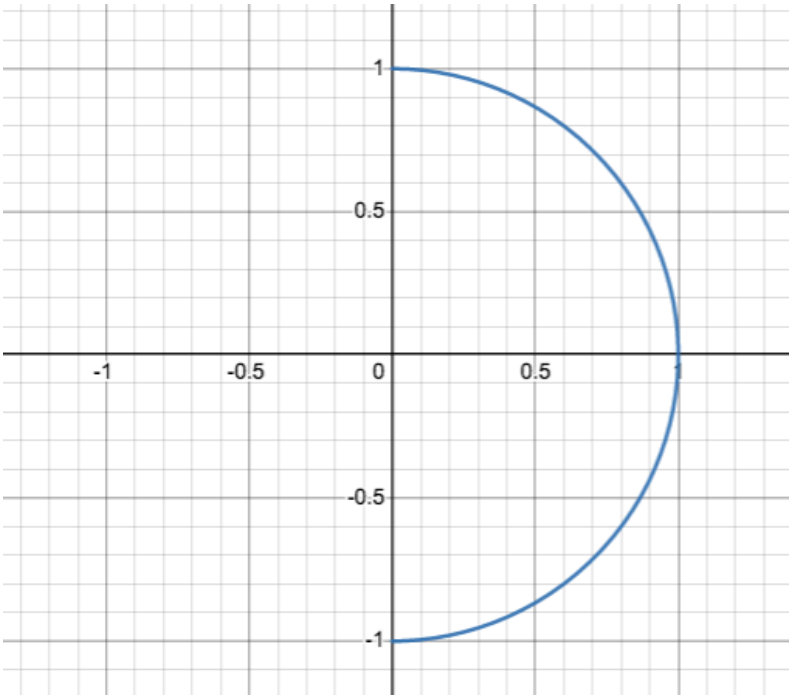
8. $x=|t|$
$y=\left|1-|t|\right|$



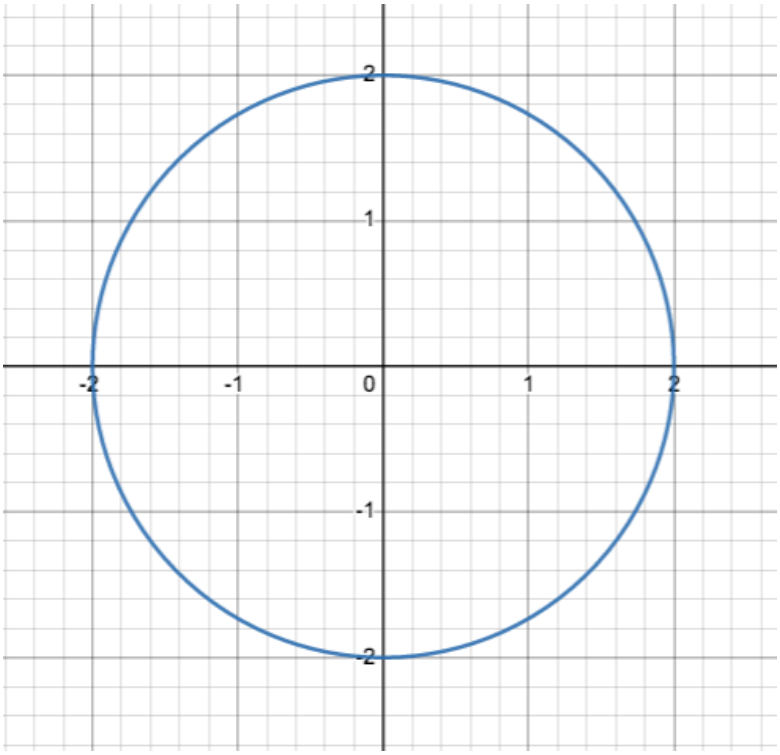
9. $x=\sin(t)$
$y=\cos(t)$
$0 \le t \le 2\pi$



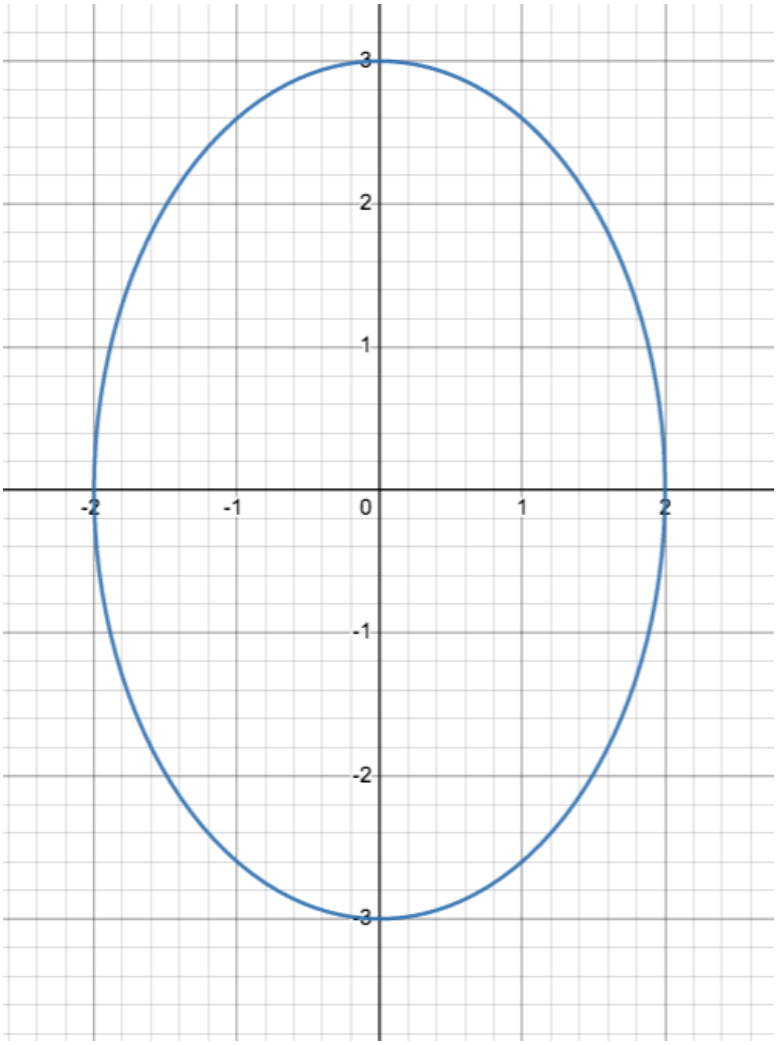
10. $x=\sin(t)$
$y=\cos(t)$
$0\leq t\leq\pi$



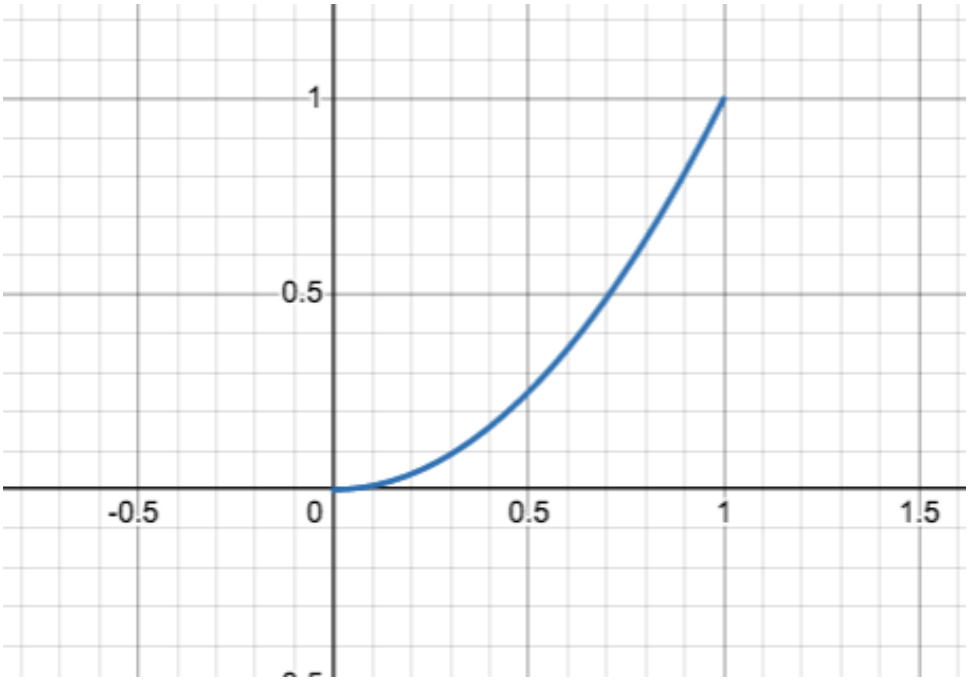
11. $x=2\sin(t)$
$y=2\cos(t)$
$0\leq t\leq 2\pi$



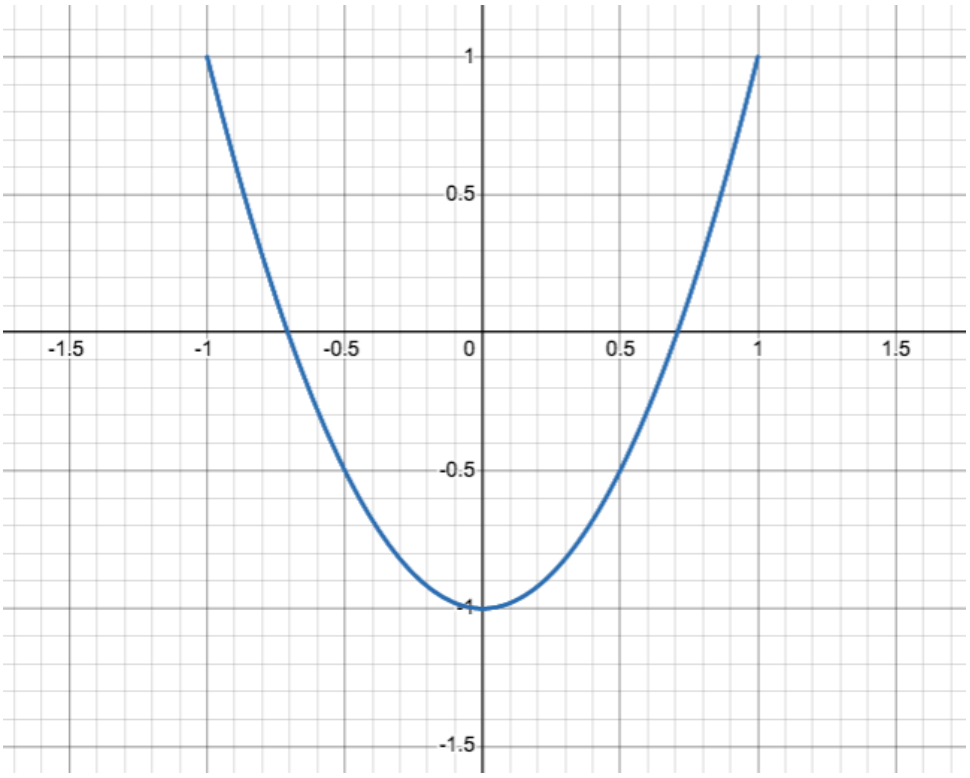
12. $x=2\cos(t)$
$y=3\sin(t)$
$0\leq t\leq 2\pi$



13. $x=sin^2(t)$
$y=sin^4(t)$



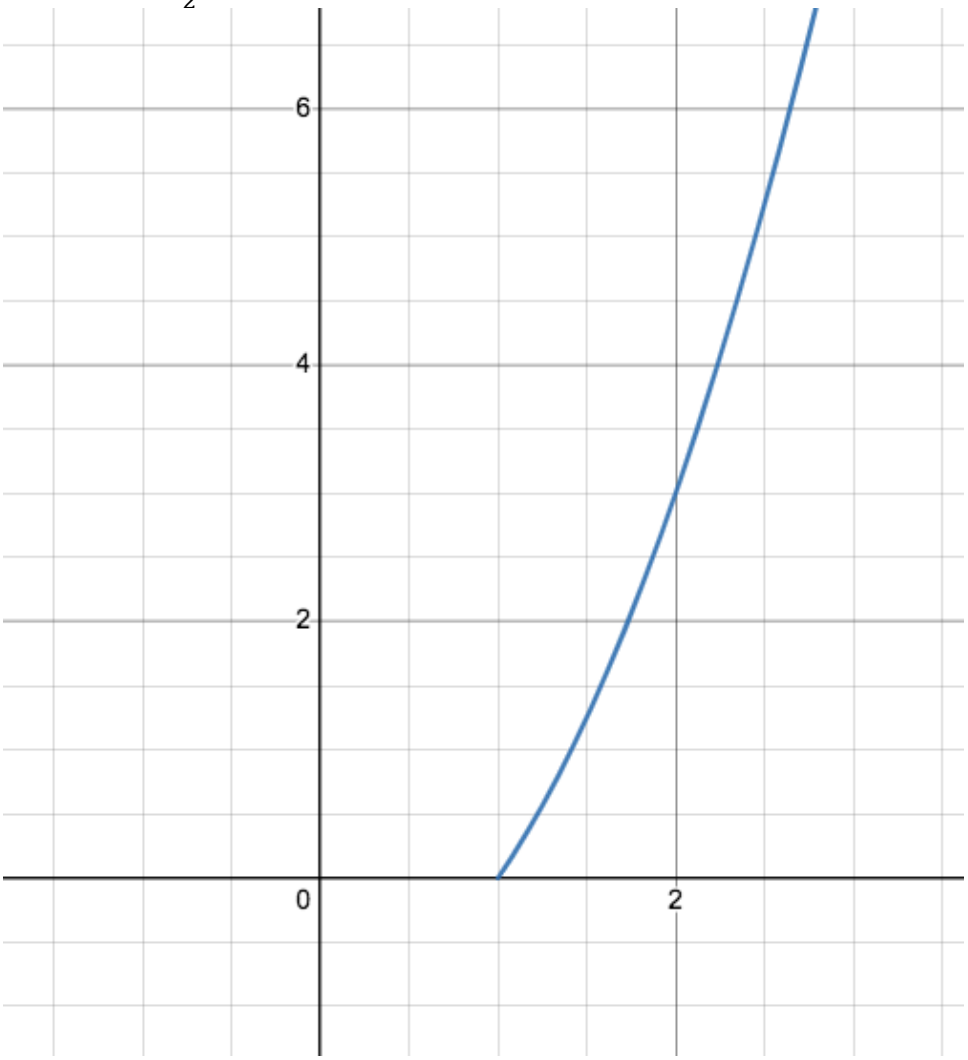
14. $x=\cos(t)$
$y=\cos(2t)$



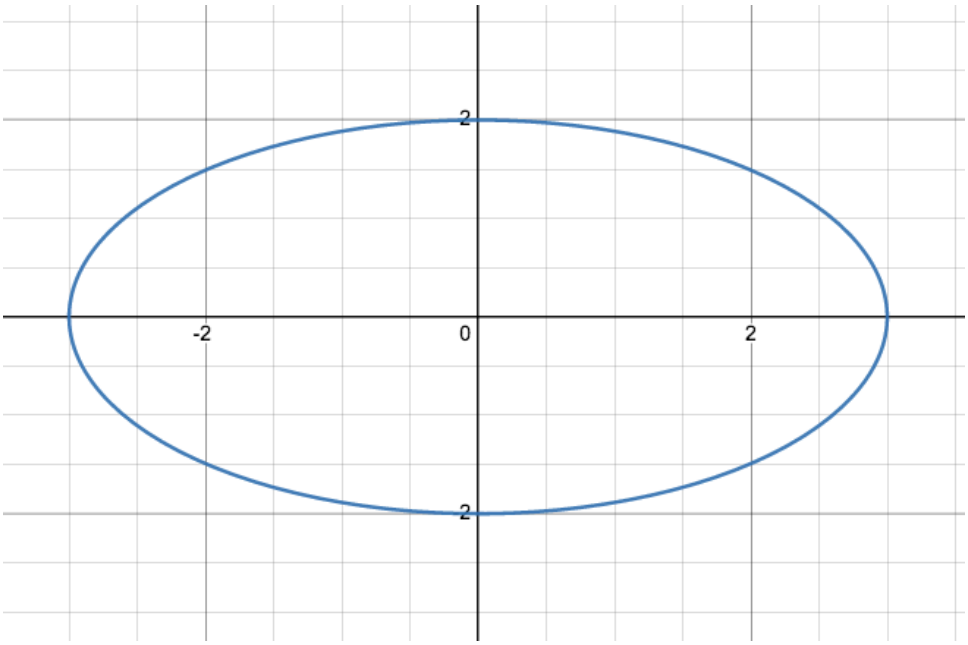
15. $x=\sec(t)$
$y=\tan(t)$
$0\leq t\leq\frac{\pi}{2}$

17. $x=\tan(t)$
$y=\cot(t)$
$0\leq t\leq\frac{\pi}{2}$

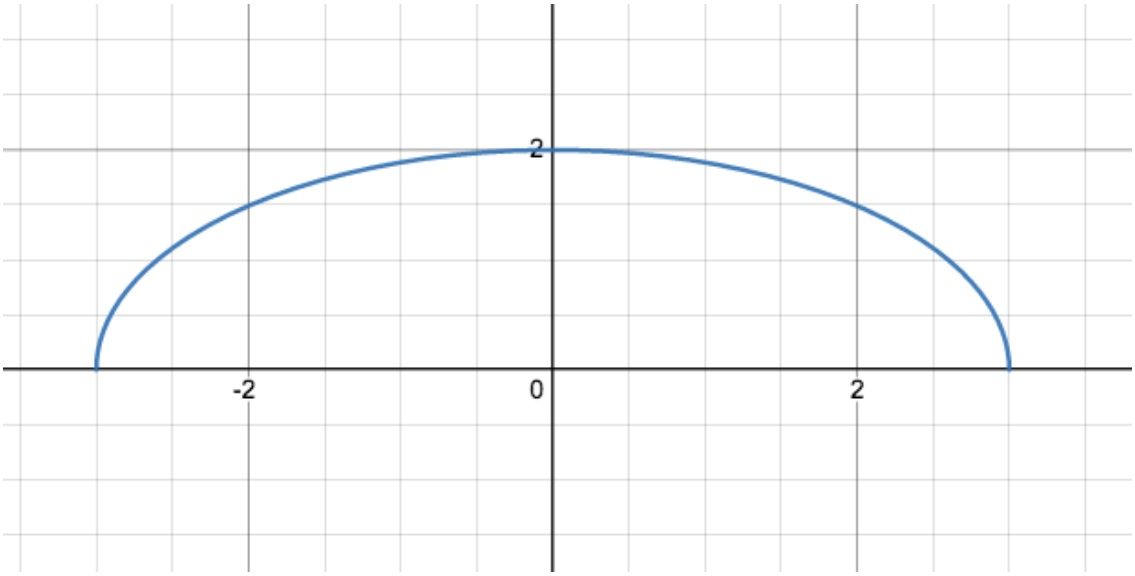
18. $x=\sec(t)$
$y=tan^2(t)$
$0\leq t\leq\frac{\pi}{2}$



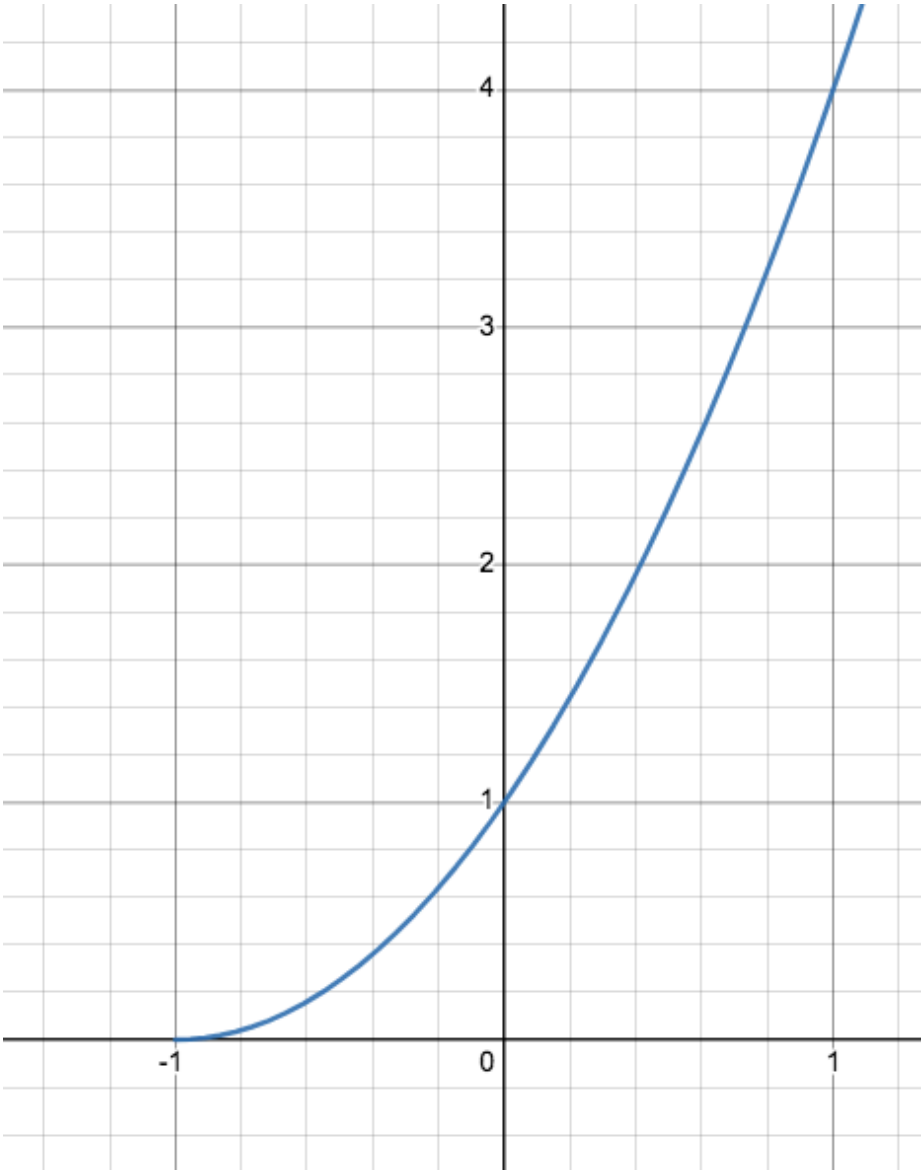
19. $x=3\cos(t)$
$y=2\sin(t)$



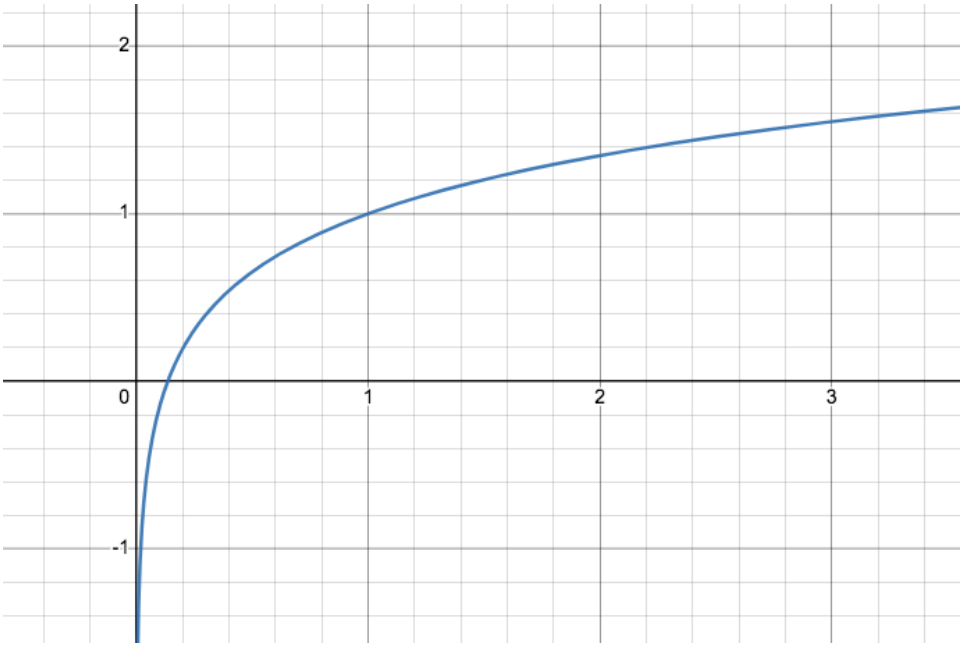
20. $x=3\cos(t)$
$y=2\sin(t)$
$0\le t\le\pi$



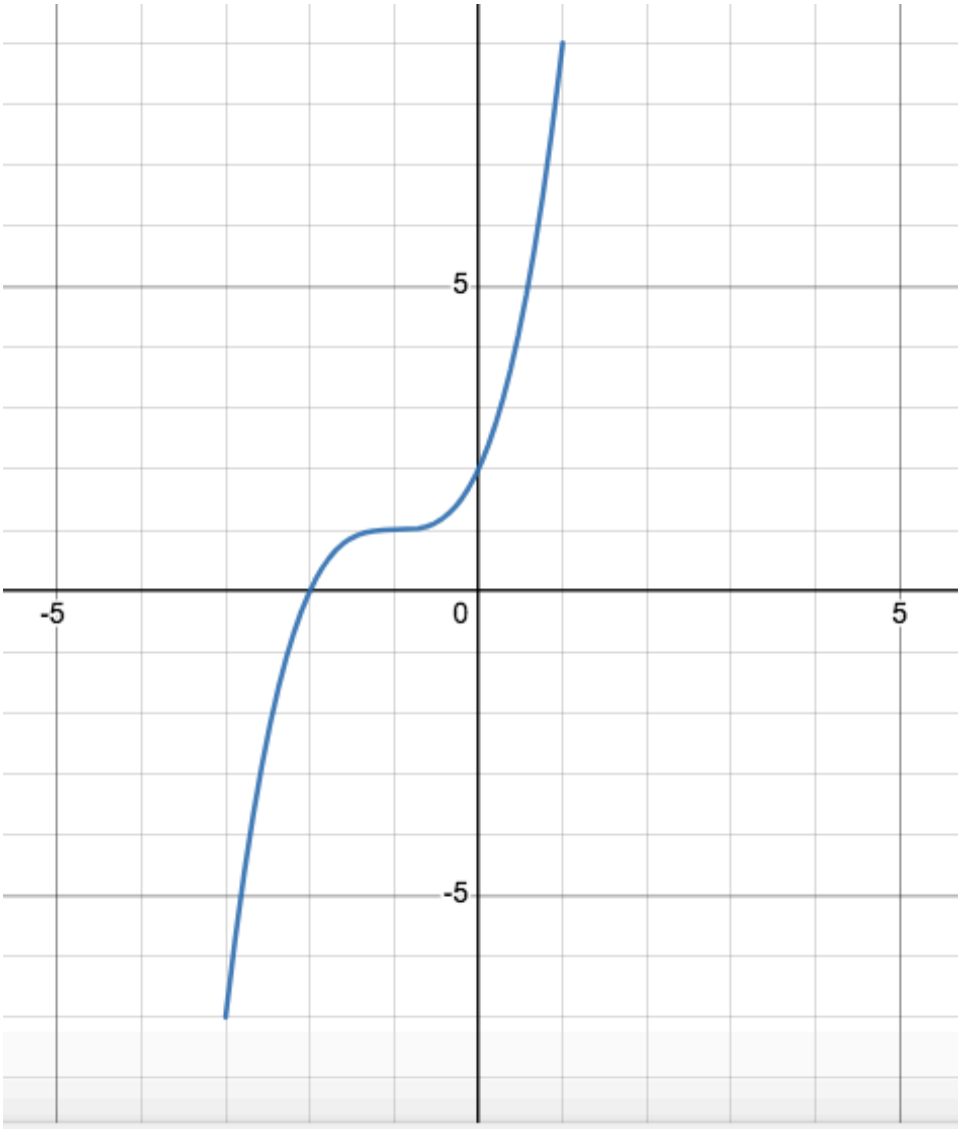
21. $\begin{matrix} x=e^t-1 \\ y=e^{2t} \end{matrix}$



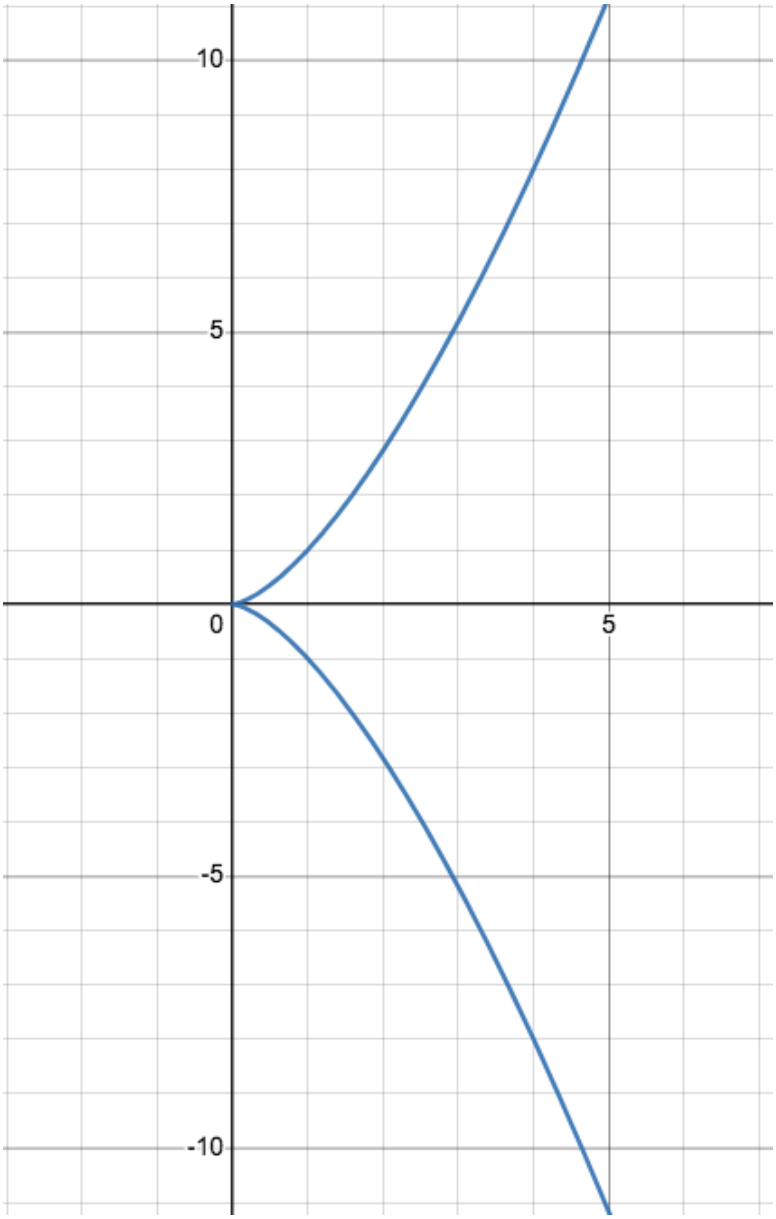
22. $x=e^{2t}$
$y=t+1$



23. $x=t-1$
$y=t^3+1$
$-2\leq t\leq 2$



24. $\begin{matrix} x=t^2 \\ t=t^3 \end{matrix}$



25. $x=1+4\cos(t)$
$y=2-3\sin(t)$
$0\le t\le 2\pi$