

Use EasyCalc to sketch each of the following parametric curves. Describe (or make a copy of) the graph in the space below each pair of equations. For some of the equations, you may have to go to the Preferences screen and change the viewing area to see the full picture.

1. $x = 4 \sin(t) \cos(2t), y = t^2, -\pi \leq t \leq \pi.$

2. $x = 4 \sin(t) \cos(2t), y = t^3, -\pi \leq t \leq \pi.$

3. $x = t \sin(t), y = 3 \cos(t), 0 \leq t \leq 4\pi.$

4. $x = t \sin(t), y = t \cos(t), 0 \leq t \leq 4\pi.$

5. $x = 4 \sin(t) \cos(t), y = 4 \cos(2t) \cos(t), 0 \leq t \leq 2\pi.$

6. $x = 4 \sin(t) \cos(3t), y = 4 \cos(t) \cos(3t), 0 \leq t \leq 2\pi.$

7. $x = 4 \sin(t) \cos(4t), y = 4 \cos(t) \cos(4t), 0 \leq t \leq 2\pi.$

Soon we will be studying another kind of parametric equation, called Polar Equations. Follow the directions below to graph the curve defined by $r = 3 + 4 \sin(t)$. (You do not have to understand what this equation means. This lab will simply let you become acquainted with the various polar curves we are going to learn about later.)

1. Go to the graphing screen (by tapping the 'G' at the top of the screen).
2. Tap P to go to the Preferences screen.
3. Choose Polar.
4. Choose Default.
5. Change the T-max value to '2 pi'.
6. Tap 'OK'.
7. Press S to go to Setup Graphs (Note: There are two S's. You want the one that is not in a box.).
8. Set $r1$ to be $3 + 4 \sin(t)$.
9. Tap Done.

Use EasyCalc to sketch each of the following polar curves for $0 \leq t \leq 2\pi$. Describe (or make a copy of) the graph in the space below each pair of equations.

1. $r = 5$.

2. $r = \sin(t)$.

3. $r = 2 \cos(t)$.

4. $r = \cos(2t)$.

5. $r = t$.

6. $r = 4 - 3 \cos(t)$

7. $r = 4 - 6 \cos(t)$