

Worksheet on Graphing Parametric Equations with EasyCalc

Follow the following directions to get EasyCalc to graph the curve defined by  $x = 5 \sin(t)$ ,  $y = 3 \cos(t)$ ,  $0 \leq t \leq \pi$ .

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 Parametric.
4. Choose Default.
5. Change the T-max value to '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 X1 to be  $5 \sin(t)$  and Y1 to be  $3 \cos(t)$ .
9. Tap Done.

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.  $x = t^4 - 5t^2$ ,  $y = 2t$ ,  $-5 \leq t \leq 5$
2.  $x = t + \cos(3t)$ ,  $y = t + \sin(3t)$ ,  $-5 \leq t \leq 5$
3.  $x = 5 \cos(t) - \cos(10t)$ ,  $y = 5 \sin(t) - \sin(10t)$ ,  $-5 \leq t \leq 5$
4.  $x = 5 \sin(t) - \cos(10t)$ ,  $y = 5 \cos(t) - \sin(10t)$ ,  $-5 \leq t \leq 5$