

Parametrize the following curves:

1. The circle of radius 4 centered at the origin moving counterclockwise.
2. The circle of radius 4 centered at the origin moving clockwise.
3. The sine curve  $y = \sin(x)$  on the interval  $[0, \pi]$ .
4. The right half of the circle of radius 2 centered at  $(1, 2)$  moving from bottom to top.
5. The four-leaf clover given in polar coordinates by  $r = \cos(2\theta)$ .
6. A 3-D spiral of constant radius