MATH 1710 Tutorial 12

In problems 1–4, draw the curve.

1. $r = 1 - \sin\theta$

2. $r = 2 + 4\sin\theta$

3. $r = \cos 3\theta$

4. $r^2 = 9\cos 2\theta$

5. Find all points of intersection of the curves

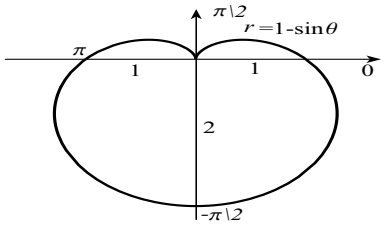
$$r = 1 + \sin\theta, \qquad r = 2 - 2\sin\theta.$$

6.(a) Find the slope of the tangent line to the curve $r = 1 + 3\sin\theta$ at the point on the curve corresponding to $\theta = \pi/6$.

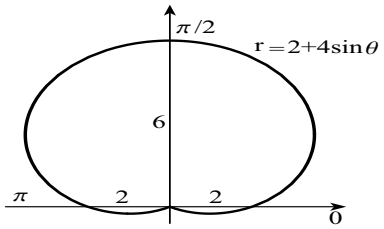
(b) Determine algebraically whether the curve in part (a) is concave upward or downward when $\theta = \pi/6$.

Answers

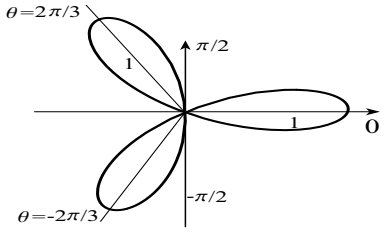
1.



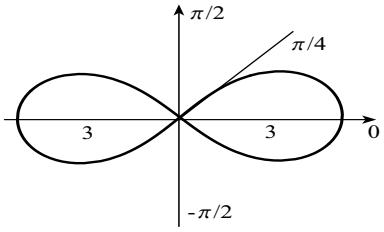
2.



3.



4.



5. $(4/3, \theta_1)$, $(4/3, \theta_2)$, the pole

6.(a) $2\sqrt{3}$ (b) concave upward