

Problems. February 8.

1. Find the slope of the four-leaved rose $r = \cos 2\theta$ at the points where $\theta = 0, \pi/6, \pi/4$.
2. Find the points of intersection of the curves $r^2 = \cos \theta$ and $r^2 = \sin \theta$.
3. Find the area inside one leaf of the three-leaved rose $r = \sin 3\theta$.