

## WORKSHEET FOR 4/17/2009

**Exam 3:** Exam 3 will be held Friday, May 1 during our normal class. It will cover sections 11.4-V.3 and possibly some stuff from chapter M (if we get it it).

**Reading assignment.** Review section V.3 (slopes)

**Homework due Monday.** V.3: 5, 7, 9, 21

### Exercises:

- (1) Find the area of a sector with angle  $\theta_0$  in a circle of radius  $r_0$ :
  - (a) by using high school geometry.
  - (b) by considering a circle of radius  $r$  defined by the polar equation  $r = r_0$ .
- (2) Find the area traced out by the following polar curves on the following intervals. Draw the regions in question.
  - (a)  $r = \theta$ ,  $[0, \pi]$ .
  - (b)  $r = \ln \theta$ ,  $[\frac{\pi}{2}, \pi]$ .
  - (c)  $r = \cos(n\theta)$ ,  $[\frac{-\pi}{2n}, \frac{\pi}{2n}]$