

MATH 243: SECTION 10.4 GROUPWORK

- (1) Find the area of the region enclosed by the two curves

$$r = 4 \sin \theta$$

and

$$r = 2 - \cos \theta.$$

- (2) Find the arc length of the curve given by the polar equation

$$r = \theta^2$$

where $0 \leq \theta \leq \pi$.