

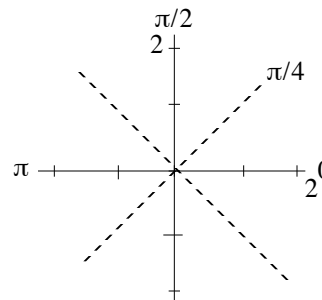
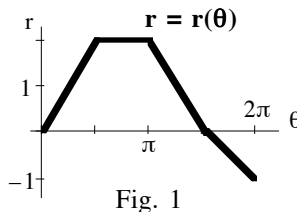
Math 126

Show Your Work!
Good Luck!

Jan. 19, 2007
Quiz 2 A

Name _____
please print

- (4) 1. Fig. 2 shows the rectangular coordinate graph of $r = r(\theta)$. Sketch the polar coordinate graph of $r = r(\theta)$.



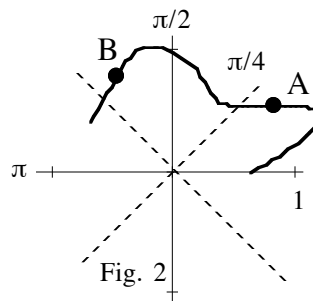
- (3) 2. Fig. 2 shows the polar coordinate graph of $r = r(\theta)$. Use the graph to answer the questions about the values of the various derivatives.

(circle the correct word)

At A, $\frac{dx}{d\theta}$ is POS NEG ZERO UNDEFINED

At A, $\frac{dr}{d\theta}$ is POS NEG ZERO UNDEFINED

At B, $\frac{dy}{dx}$ is POS NEG ZERO UNDEFINED



3. Calculate $\frac{dx}{d\theta}$ and the slope of the tangent line to $r(\theta) = 0.7 + \cos(\theta)$ when $\theta = \pi/4$.

(3) $\frac{dx}{d\theta} =$ _____ (number) slope = _____ (number)

(3)

4. Fig. 4 shows part the graph of the spiral $r(\theta) = 1 + \theta$.

(a) Represent the **shaded** area as a definite integral:

(4) area = \int

(do NOT evaluate it.)

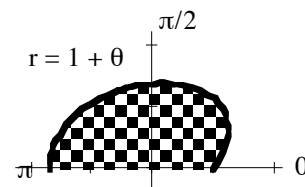


Fig. 4

(b) Represent the **length** of the of the spiral ($0 \leq \theta \leq \pi$)

(4)(1) as a definite integral. $L = \int$ = _____ (number)