

## Math 251 section 007 Quiz 5

Write your name and PSU ID here:

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Write your answers here:

1. C    2. B    3. A

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1. Which of the following is NOT a critical point of the system:

$$dx/dt = (x - y)(1 - x - y), \quad dy/dt = x(2 + y)$$

- (a) (0, 0)   (b) (0, 1)   (c) (1, -2)   (d) (3, -2)

2. Find the type of the critical point (0, 0) of the system

$$dx/dt = (1 - x - \cos x)(2 + y), \quad dy/dt = (2 - x) \sin 2y$$

- (a) node   (b) saddle point   (c) spiral point   (d) proper node

- 3.

$$f(x) = \begin{cases} 1 - x, & 0 \leq x < 1 \\ x, & 1 \leq x < 2 \end{cases}$$

$f(x)$  has a COSINE series with period 4. Find the value to which this cosine series converges at  $x = 3$ .

- (a) 1/2   (b) -1/2   (c) 0   (d) 1