

**King Fahd University of Petroleum and Minerals**  
**Faculty of Science – Prep-Year Math Program**  
**Math 002 - Term 032**  
**Recitation hour (9.1 & 9.3)**

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**Question1**

If  $(x, y)$  is the solution of system of equations  $\begin{cases} 2x - 5\pi y = 3 \\ 3x + 4\pi y = 2 \end{cases}$ , then find the value of  $x + \pi y$ .

**Question2**

Solve the system of equations  $\begin{cases} x \cos \theta - y \sin \theta = -\cos \theta \\ x \sin \theta + y \cos \theta = -\sin \theta \end{cases}$  for any value of  $\theta$ .

**Question3**

If the system of linear equations  $\begin{cases} x + ky = 5 \\ 3x + 5y = 0 \end{cases}$  is inconsistent, then find  $k$ .

**Question4**

Find the points of intersection between the circles  $(x+1)^2 + (y-1)^2 = 25$  and  $(x-1)^2 + (y+1)^2 = 5$ .

**Question5**

Solve the system of equations  $\begin{cases} x^2 + 2xy - y^2 = 1 \\ x^2 + 3xy + 2y^2 = 0 \end{cases}$  for rational number ordered pairs.