King Fahd University of Petroleum and Minerals
Prep-Year Math Program
Math 002 - Term 132
Recitation Hour (9.5)

Question 1: If (a,b), and (c,d) are the solutions of the system $\begin{cases} x^2 - 3xy + y^2 = 4 \\ x^2 - 5xy + 6y^2 = 0 \end{cases}$

then $ac + bd =$

A) −12   B) −40   C) −10   D) −36   E) −20

Answer: B) −40

Question 2: Solve the system of equations $\begin{cases} x^2 + xy + y^2 = 21 & \text{(I)} \\ x^2 - xy + y^2 = 9 & \text{(II)} \end{cases}$ for real number

ordered pairs.

Answer: $SS = \left\{ \left(\sqrt{3}, 2\sqrt{3} \right), \left(-\sqrt{3}, -2\sqrt{3} \right), \left(\sqrt{3}, 2\sqrt{3} \right), \left(2\sqrt{3}, \sqrt{3} \right), \left(-2\sqrt{3}, -\sqrt{3} \right) \right\}$

Question 3: If one of the solutions of the system of equations $\begin{cases} 5x + y = 3 & \text{(I)} \\ y = x^2 - 3x - 5 & \text{(II)} \end{cases}$ is

(A,B) where $A + B = -5$, then $AB =$

A)   −14
B)   15
C)   −7
D)   2
E)   4

Answer: −14

Question 4: The number of intersection points of the graphs of the equation $x^2 + y^2 = 1$ and

$4x^2 + (y-3)^2 = 4$ is:

A)   0   B)   1   C)   3   D) 2   E)   4

Answer: B) 1

Question 5: Number of points of intersection of the graphs of $y = \dfrac{6}{x+1}$ and $y = \dfrac{x}{x-1}$ is

A)   0   B)   1   C)   3   D) 2   E)   4

Answer: D) 2