

**King Fahd University of Petroleum and Minerals**  
**Prep-Year Math Program**  
**Math 002 - Term 142**  
**Recitation (9.1)**

**Question 1:** If  $(a,b)$  is the solution of system of equations  $\begin{cases} 2x - 5\pi y = 3 \\ 3x + 3\pi y = -1 \end{cases}$ , then find the value of  $a + \pi b$ . **Answer:**  $a + \pi b = \frac{4}{21} - \pi \frac{11}{21\pi} = \frac{4-11}{21} = -\frac{7}{21} = -\frac{1}{3}$

**Question 2**

If the system of linear equations  $\begin{cases} 3x - 2y + 1 = 0 \\ x + ky = 0 \end{cases}$  is **inconsistent**, then find  $k$ .

**Answer:** If  $k = -\frac{2}{3}$  then the system is inconsistent.

**Question 3**

If  $(2, -1)$  is a solution of the linear system  $\begin{cases} ax - by = 12 \\ bx + ay = -1 \end{cases}$ , then  $a + b =$

- |      |      |
|------|------|
| A) 7 | D) 9 |
| B) 8 | E) 4 |
| C) 6 |      |

**Answer:** A) 7

**Question 4**

If the linear system  $\begin{cases} \frac{3}{4}x + \frac{k}{3}y = 2 \\ \frac{1}{2}x + \frac{2}{9}y = \frac{4}{3} \end{cases}$  is dependent system, then the value of  $k$  is

- |      |      |
|------|------|
| A) 1 | D) 2 |
| B) 5 | E) 3 |
| C) 4 |      |

**Answer:** A) 1

**Question 5:**

If  $(x, y)$  is the solution of the system  $\begin{cases} y = \log(x + 1) + 3 \\ y = \log(x + 2) + 2 \end{cases}$ , then  $27x =$

- A) 15                  B) -18                  **C) -24**                  D) -4                  E) 36