King Fahd University of Petroleum and Minerals
Prep-Year Math Program
Math (001)-Term (181)
Recitation (1. 7)

Question 1: Find the solution set of the following inequality:

(a): $-\frac{1}{2} \le \frac{4-3x}{5} \le \frac{1}{4}$

(b): $4x^2 + 3x \le 1$

(c): $\frac{(x-8)^8}{x^2+7x+12} \le 0$

Answer (a): $SS = \left[\frac{11}{12}, \frac{13}{6}\right]$ **(b):** $\left[-1, \frac{1}{4}\right]$ **(c):** $SS = (-4,-3) \cup \{8\}$

Question 2: The solution set of the inequality $0 < x^2 - 4 \le 5$ is

(a) $(-3,-2] \cup (2,3]$

(b) $(-3,3]$

(c) $(-3,3)$

(d) $[-3,-2) \cup (2,3]$

(e) $(-3,-2]$

Answer: (d): $SS = [-3,-2) \cup (2,3]$

Question 3: If the solution set of the inequality $x(5x+3) \le 3x^2 + 2$, is given by the interval $[m,n]$ then calculate $m - n$.

Answer: $m - n = -2 - \frac{1}{2} = -\frac{5}{2}$

Question 4: Solve the following inequality. $\frac{x}{2} \ge \frac{5}{x+1} + 4$

Answer: $SS = [-2,-1) \cup [9,\infty)$