

King Fahd University of Petroleum and Minerals
Prep-Year Math Program
Math (001)-Term (181)
Recitation (1. 6)

Question 1: Solve the following equation:

(a) $x^4 - 5x^2 + 6 = 0$

(b) $\frac{-4x}{x-1} + \frac{4}{x+1} = \frac{-8}{x^2-1}$

(c) $\left(\frac{x}{x+2}\right)^2 = \frac{4x}{x+2} - 4$

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

Answer (b): $SS = \emptyset$

Answer (c): $SS = \{-4\}$

Question 2: Find the sum of all solutions of the following equations:

(a): $\sqrt{x+2} = 1 - \sqrt{3x+7}$ **Answer:** $SS = \{-2\}$

(b): $x - \sqrt{x} = 12$ **Answer:** $SS = \{16\}$

(c): $\frac{10}{x-5} + x = 1 - \frac{2x}{5-x}$ **Answer:** $SS = \{3\}$

Question 4: Solve the following equation $3(2x-1)^{\frac{2}{3}} + 7(2x-1)^{\frac{1}{3}} = 6$

Answer $SS = \left\{\frac{13}{27}, \frac{35}{16}\right\}$