

**King Fahd University of Petroleum and Minerals**  
**Prep-Year Math Program**  
**Math (001)-Term (141)**  
**Recitation (1. 6)**

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**Question 1:** The sum of the solutions of the equation  $(14 - 2x)^{\frac{2}{3}} = 4$  is equal to:  
 A) -8      B) 14      C) -14      D) 56      E) 8

**Answer: (B):** 14

**Question 2:**

Solve the following equations:

(a)  $\frac{x}{x-1} - \frac{x-1}{x+1} = \frac{x}{x^2-1}$

(b)  $(5x^2 - 6)^{1/4} = x$

(c)  $x^{2/3} + 7x^{1/3} = 8$

(d)  $\sqrt{2-\sqrt{x}} - 2\sqrt{x} + 1 = 0$

**Answer: (a):**  $SS = \left\{ \frac{1}{2} \right\}$       **(b):**  $SS = \{ \sqrt{2}, \sqrt{3} \}$       **(c):**  $SS = \{ -512, 1 \}$       **(d):**  $SS = \{ 1 \}$

**Question 3:**

The *SUM* of the real solutions of the equation

$(2t - 1)^{2/3} + (16t - 8)^{1/3} = 3$  is

- (a) -2                      (b) 14                      (c) -14  
 (d) -12                      (e) 12

**Answer: (d):** sum of real solutions =  $-13 + 1 = -12$

**Question4:**

The solution set of the equation:  $2\sqrt{x-1} = \sqrt{2x-1} + 1$  consists of

- (a) only one positive integer.  
 (b) two negative integers.  
 (c) one negative and one positive integers.  
 (d) only one negative integer.  
 (e) two positive integers.

**Answer:** (a) only one positive integer.  $SS = \{ 5 \}$