

Show all work clearly and in order. Please box your answers. 10 minutes.

- 2 1. Which of the following is NOT a *linear combination* of x_1 , x_2 , x_3 and x_4 ? (Circle one).

- A. $x_1 + 2x_2 + x_4$
- B. $x_2 + x_3 + x_4$
- C. $x_1 - x_2 + x_3 + 2x_4$
- D. $2x_1 + 2\sqrt{x_2} + 3(x_3)^{(1/3)} + x_4$
- E. $x_1 + x_2 + x_3 + \pi x_4$

- 2 2. Which of the following is a *linear equation* of variables x_1 and x_2 ? (Circle one).

- A. $3x_1x_2 = 7$
- B. $3(x_1)^2 + 2(x_2)^2 = 6$
- C. $3x_1 + 2x_2$
- D. $3\sqrt{x_1} + 2\sqrt{x_2} = 6$
- E. $3x_1 + 2x_2 = 6$

- 3 3. Using any method find the solution set to the system of linear equations:

$$3x_1 + x_2 = 1$$

$$x_1 - 2x_2 = 2$$

- 1 4. Write the augmented matrix for the system of linear equations:

$$x_1 + x_2 + 3x_3 = 2$$

$$x_1 + 4x_2 + 4x_3 = 2$$

$$4x_1 - 3x_2 - 5x_3 = -3$$

- 2 5. Tell me some interesting facts about yourself that will help me get to know you. *Examples: What is your favorite book/movie? What is your favorite music genre? What do you like about your major? What is your favorite programming language? Did you do anything interesting over the break? Another interesting fact about yourself, etc.*