

Place your name on the back of this sheet of paper and nowhere else. Staple your answers on the front of this sheet of paper. Failure to follow these directions will cost you 10 points. If you use double-sided printing or write on the back of scrap paper, I will give you one additional point.

**Show all work for all questions which have work.**

1) (20 points each) Set up the following equations as a partitioned matrix. Use row operations to find all solutions to the system.

A) $3X + 2Y + Z = 17$	$X - Y - Z = 0$	$2X + Z = 11$
B) $\frac{1}{2}X - \frac{1}{4}Y + \frac{3}{4}Z = 12$	$X + Y + Z = 36$	$-3Y + Z = -24$
C) $7X + 2Y + Z = 10$	$-3X + Z = -10$	$X + 2Y - Z = 20$
D) $Y + 2Z = 0$	$3X + Y = 0$	$3X + 2Y + Z = 0$
E) $Y + Z = 0$	$3X + Y + Z = 0$	$3X + 3Y + 3Z = 0$