MAC1105 Day 5 Classwork: Solve Systems of Three Equations

Name _____ Score _____

Solve the system of linear equations. If the equations are dependent, write your answer with z being arbitrary.

1) $\begin{cases} x + y + z = 7 \\ x - y + 2z = 7 \\ 5x + y + z = 11 \end{cases}$

Solve the problem by using three variables.

2) A basketball fieldhouse seats 15,000. Courtside seats sell for $10, endzone for $6, and balcony for $4. The total revenue from a sell-out is $82,000. If half the courtside and balcony seats and all the endzone seats are sold, the total revenue is $47,000. How many of each type are there (show your work)? (Answer: 3000 courtside; 2000 endzone; 10,000 balcony).