Quiz 18 Key — MA16020 — April 9, 2018

Alden Bradford

Min	Mean	Max
1	6.8	10

1. (8 points) For each of the following augmented matrices, state whether the system it describes is inconsistent, consistent dependent, or consistent independent.

(a) $\left[\begin{array}{cc|c} 3 & 5 & 7 \\ 1 & -1 & -3 \end{array}\right]$

(b) $\left[\begin{array}{ccc|c} 1 & 3 & -2 & 4 \\ 0 & 1 & 9 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right]$

(c) $\left[\begin{array}{cc|c} 6 & -21 & 3 \\ -4 & 14 & -2 \end{array}\right]$

(d) $\left[\begin{array}{ccc|c} 1 & 5 & 6 & 1 \\ 0 & 1 & 2 & 0 \\ 0 & 0 & 0 & 0 \end{array}\right]$

(a) consistent independent

(b) inconsistent

(c) consistent dependent

(d) consistent dependent

2. (2 points) With R_1, R_2, and R_3 representing the rows of the following matrix, state (do not compute) a single valid row operation that will put a zero in the third row in the second column.

$$\left[\begin{array}{ccc|c} 1 & 0 & 4 & 6 \\ 0 & 1 & 3 & 7 \\ 0 & \frac{2}{3} & \frac{8}{2} & -3 \end{array}\right]$$

$-\frac{2}{3}R_2 + R_3 \to R_3$, or $R_1 \leftrightarrow R_3$.