

$$\left(\begin{array}{ccc|ccccc|c|c} X & Y & Z & A & B & C & D & E & P & RHS \\ \hline 1 & 1 & 1 & \textcircled{1} & 0 & 0 & 0 & 0 & 0 & 100 \\ 5 & 4 & 8 & 0 & \textcircled{1} & 0 & 0 & 0 & 0 & 500 \\ 3 & 3 & 3 & 0 & 0 & \textcircled{1} & 0 & 0 & 0 & 1000 \\ 1 & 1 & 2 & 0 & 0 & 0 & \textcircled{1} & 0 & 0 & 150 \\ 2 & 1 & 1 & 0 & 0 & 0 & 0 & \textcircled{1} & 0 & 120 \\ \hline -1 & -2 & -3 & 0 & 0 & 0 & 0 & 0 & \textcircled{1} & 0 \end{array} \right)$$

- (a) What is the basic solution indicated by this RREF?
- (b) Explain why it is feasible, but not optimal. [Answer in two complete sentences.]
- (c) Which columns in this table are eligible for pivoting?
- (d) How can you tell? [Write out the profit equation, and answer in a complete sentence.]
- (e) What happens if you pivot on a wrong column? [Try a small example]
- (f) Assuming we pivot the second column, which rows are eligible for pivoting?
- (g) How can you tell? [Write out the A equation versus the B equation, remembering that X and Z are currently scheduled to be 0, but Y is scheduled to be “as big as possible”]
- (h) What happens if you pivot on a wrong row? [Try pivoting on the B row; what happens to the A row?]

$$\left(\begin{array}{ccc|cccc|c|c} X & Y & Z & A & B & C & D & E & P & RHS \\ \hline 1 & \textcircled{1} & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 100 \\ 1 & 0 & 4 & -4 & \textcircled{1} & 0 & 0 & 0 & 0 & 100 \\ 0 & 0 & 0 & -3 & 0 & \textcircled{1} & 0 & 0 & 0 & 700 \\ 0 & 0 & 1 & -1 & 0 & 0 & \textcircled{1} & 0 & 0 & 50 \\ 1 & 0 & 0 & -1 & 0 & 0 & 0 & \textcircled{1} & 0 & 20 \\ \hline 1 & 0 & -1 & 2 & 0 & 0 & 0 & 0 & \textcircled{1} & 200 \end{array} \right) \quad \text{-- this is the back of the worksheet, FWIW}$$

- (a) What is the basic solution indicated by this RREF?
- (b) Explain why it is feasible, but not optimal. [Answer in two complete sentences.]
- (c) Which columns in this table are eligible for pivoting?
- (d) How can you tell? [Write out the profit equation, and answer in a complete sentence.]
- (e) What happens if you pivot on a wrong column? [Try a small example]
- (f) Assuming we pivot the third column, which rows are eligible for pivoting?
- (g) How can you tell? [Write out the A equation versus the B equation, remembering that X and Z are currently scheduled to be 0, but Y is scheduled to be “as big as possible”]
- (h) What happens if you pivot on a wrong row? [Try pivoting on the B row; what happens to the A row?]