

Name: Key

Math 221: Quiz 5 - 6/10/15

Solve the following problems. Please use a pencil if possible.

1. Compute $1232_{\text{five}} + 433_{\text{five}}$ using the: [26 Points Each]

(a) Left to Right Algorithm

$$\begin{array}{r} 1232 \\ + 433 \\ \hline 1000 \\ 1100 \\ 110 \\ + 10 \\ \hline \boxed{2220_{\text{five}}} \end{array}$$

(b) Lattice Algorithm

$$\begin{array}{r} 1232 \\ + 433 \\ \hline \begin{array}{|c|c|c|c|} \hline 0 & 1 & 1 & 0 \\ \hline \end{array} \\ \hline \boxed{2220_{\text{five}}} \end{array}$$

2. Compute $1232_{\text{five}} - 433_{\text{five}}$ using the: [25 Points Each]

(a) Standard Algorithm

$$\begin{array}{r} 1112 \\ 1232 \\ - 433 \\ \hline \boxed{244_{\text{five}}} \end{array}$$

(b) Equal Additions Algorithm

$$\begin{array}{r} 1232 + 2 \quad 1234 + 10 \quad 1244 \\ - 433 + 2 \quad - 440 + 10 \quad - 1000 \\ \hline \boxed{244_{\text{five}}} \end{array}$$