

**Show all work. Credit is based on work shown!**

**DO NOT USE A CALCULATOR ON THIS QUIZ**

3pts

1. Calculate this **mentally** using the equal addends method. Write out the necessary steps.

$$\begin{array}{r} 152 \\ - 96 \\ \hline \end{array}$$

5pts

2. Show the steps to **estimate** the sum of the following numbers using:

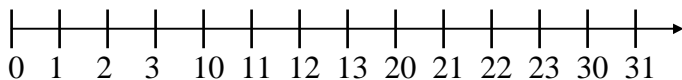
a. the **range method**

b. the **one-column with adjustment method**.

$$\begin{array}{r} 5728 \\ 3405 \\ 152 \\ + 7127 \\ \hline \end{array}$$

7pts

3. **Do the following problems in base four!** Use the number-line for your basic number facts.

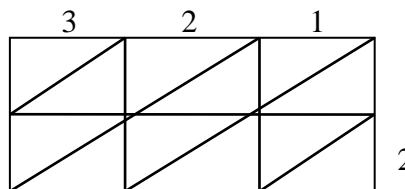


a. Subtraction by the standard algorithm.

b. Multiplication by the lattice method.

$$321 \times 32_{four} = \text{_____}_{four}$$

$$\begin{array}{r} 321 \\ - 233 \\ \hline \end{array} \Bigg]_{four}$$



5pts

4. **Without dividing**, answer each question yes or no, then **justify your answer** by **showing the divisibility test**.

a. Does  $9 \mid 8430$  ? \_\_\_\_\_ Justify by showing your divisibility test.

b. Does  $6 \mid 8430$  ? \_\_\_\_\_ Justify by showing your divisibility test.