MA 101
Subtraction Algorithms for Whole Numbers and Mental arithmetic

Name _____
Group _____

1. These problems use standard numeral notation (as compared with Question 2, which uses **expanded notation**.)

(4) a. Demonstrate how to find the following using a **regrouping algorithm**. (This is the traditional algorithm used in the States.)

$$\begin{array}{r} 5\ 0\ 6\ 8\ 3 \\ -\ 2\ 3\ 2\ 9\ 7 \\ \hline \end{array}$$

(4) b. Demonstrate how to find the following using an **equal additions algorithm**. (The text calls this Austrian subtraction but it is used virtually in every country except the United States.)

$$\begin{array}{r} 5\ 0\ 6\ 8\ 3 \\ -\ 2\ 3\ 2\ 9\ 7 \\ \hline \end{array}$$

2. In the space below, write largely and clearly. Demonstrate how to find $543 - 264$ using

(4) a. an **expanded notation** regrouping algorithm. (This is the traditional algorithm used in the States.)
In expanded notation 543 is written as $5 \cdot 10^2 + 4 \cdot 10 + 3 \cdot 1$

(4) b. an **expanded notation** equal additions algorithm. (The text calls this Austrian subtraction but it is used virtually in every country except the United States.)

3. In the space below, write largely and clearly. Demonstrate how to find the following easily using mental arithmetic thinking strategies and making use of compatible numbers.

(2) a. $17 + 25 + 3$
(2) b. $825 - 17$
(2) c. 5×16
(2) d. 25×12
(2) e. 13×102
(2) f. $102 \div 5$