

Name\_\_\_\_\_

**Math Power #2**

Newhart Middle School was taken over by 500 ghosts last Halloween evening while the students were all out Trick-or-Treating. The army of ghosts swept by the first 500 lockers of the 300-building around two sides of the quad. The first ghost opened all 500 lockers. The second ghost was frightened by all the opened lockers and closed all that were multiples of two. The third ghost did not like this so she changed the state (closed open lockers or opened closed lockers) that were multiples of 3. The fourth ghost changed the state of all lockers that were multiples of 4. This continued with the rest of the ghosts. How many lockers were open once the 500<sup>th</sup> ghost was done?