## Attendance Quiz # 4 for Dr. Z.'s Number Theory Course for Sept. 16, 2013

<b>NAME:</b> (print!)
E-MAIL ADDRESS: (print!)
1. Convert 24 to binary, in (i) sparse notation (ii) dense notation (iii) positional notation.

2. Use Karatsuba's algorithm (no credit for other methods!), to find the product

 $12 \cdot 23$  .