**Math 55 Section 101 Quiz 2**

**Problem 1** (4.1 Q 31) Find each of these values.

**1.A** (2pt) $(-133 \mod 23 + 261 \mod 23) \mod 23$

**1.B** (2pt) $(457 \mod 23 \cdot 182 \mod 23) \mod 23$

**Problem 2** (4.2 Q 6) Convert the octal expansion of each of these integers to a binary expansion.

**2.A** (1pt) $(572)_8$

**2.B** (1pt) $(1604)_8$

**2.C** (1pt) $(423)_8$

**2.D** (1pt) $(2417)_8$

**Problem 3** (1 pt) (4.1 Q 17) Show that if $n$ and $k$ are positive integers, then $\lceil n/k \rceil = \lfloor (n-1)/k \rfloor + 1$.

**Problem 4** (1 pt) Show that a positive integer is divisible by 7 if and only if the sum of its octal digits is divisible by 7.