Name: Key

<u>**Math 221: Quiz 4 - 6/9/15**</u>

Solve the following problems. For Problems 1-3, give the model represented by the problem, and explain why this is the correct model.

1. You found a used car in the paper for $8000, and you pay the seller $5500 now. How much do you have left to pay? [20 Points]

Take-away: You removed $5500 from your bill of $8000.

2. Skylar got 3 Barbie dolls for her birthday and got 2 more for Christmas. How many dolls did she get altogether? [20 Points]

Number Line Addition: You add 2 dolls onto the 3 she already got.

3. You had 32 friends at your awesome party, and your social rival only had 23 at theirs. How many more friends did you have than your rival? [20 Points]

Comparison: You are comparing the two sets of friends.

4. Determine whether each of the 4 properties (closure, commutative, associative, identity) hold in the set $\{1,2,3,4,5,6\}$ under addition. Give an explanation for any answer of "no". [40 Points]

Closure: No, $3+4=7 \notin \{1,2,3,4,5,6\}$ (15)

Commutative: Yes   (5)

Associative: Yes   (5)

Identity: No, $0 \notin \{1,2,3,4,5,6\}$ (15)