**Lab for Section 2.2** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Use good notation and show appropriate work. Write explanations in* ***complete sentences***.

1. (a)  (b) 15.0788 ÷ 0.46 (c) What percent of 932 is 79?

2. List the set of all of the subsets of {0, 1, 2}. Organize and use good notation.

3. Assume ***A*** is a set such that *n*(*A*) = 6.

(a) Determine the number of distinct subsets of *A* that exist.

(b) Determine the number of different proper subsets of *A*.

4. Classify each by writing *true* or *false.* For false statements, write a corrected true statement below it.

\_\_\_\_\_\_\_\_ (a) {a, b, c} = {b, c, a} \_\_\_\_\_\_\_\_ (b) *n*({*a, b, c*}) = *n*({1, 2, 3})

\_\_\_\_\_\_\_\_ (c) {*b*} ∈ {*a, b*} \_\_\_\_\_\_\_\_ (d) {0, 1} ⊂ {0, {0, 1}, 2} (Caution)

\_\_\_\_\_\_\_\_ (e) {0, 2} ⊆ {0, {0, 1}, 2} \_\_\_\_\_\_\_\_ (f) {–10, 2} ⊆ {*x* | 5*x* + 2 = 3*x* – 18 or 2 = 3*x* + 8}

\_\_\_\_\_\_\_\_ (g) ∅ and {0} are equal sets. \_\_\_\_\_\_\_\_ (h) {2, 4, 6} and {4, 6, 8} are equivalent sets.

5. Fill in the blanks below with either  to make each statement true. *C* = {1, 2, 3, 4, . . . 25},

25 \_\_\_\_\_ *C* 5 \_\_\_\_\_ *C* {3} \_\_\_\_\_\_\_*C*  \_\_\_\_\_\_\_*C* 50 \_\_\_\_\_\_ *C*

6. Fill in the blanks below with either or  to make each statement true.

Use *T* = {*t, u, r, k, e, y* }, *P* = {*k, e, y* }, *Q* = {*r, u, t* }

*P* \_\_\_\_\_ *T* ∅ \_\_\_\_\_ *T* {*e, r*} \_\_\_\_\_\_*T* *Q* \_\_\_\_\_\_ *T P\_\_\_\_\_ Q*

7. For the following questions, consider the set *U* of the students in today's class. *When asked to state a set use either set-builder notation or roster notation. State the solutions to (d) in complete sentences.*

(a) State a subset of set *U* that has four elements.

(b) State a proper subset of your subset in part (a).

(c) (i) State a set that is equivalent to the set in part (a) that does not use students from this class.

(ii) State a set that is equal to the set in part (a) that does not use students from this class.

(d) (i) How many different study groups could be formed from the set in part (a)?

(ii) How many different study groups could be formed from set *U*?