/15

Name Key

Math 102
Quiz 1 Section 2.1

Use proper notation for full credit.

1. Determine whether each set is well defined. (1 pt/problem)

a. {5, 10, …} Not well defined, (don't know if it doubles or adds 5, should have at least 3 elements)

b. {x: x is a rational number greater than 3 inclusively} Well defined

c. {y: y is a busy person} Not well defined

2. Fill in the blanks with **one** of the following $\in$ or $\notin$ to make each statement true. (1 pt/problem)

a. $\sqrt{49}$ $\in J$ (7 ∈ Integers)

b. {1, 2, 3, …} $\notin N$ (a set rather than an element)

3. Re-write the following: (2 pts/problem)

a. Change to set-builder notation {1, 2, 3, 4, … , 15}.

1.a. {X : X is a natural # less than 15 inclusively}

b. Change to list/roster method {y: y is an integer number less than 10}.

b. {9, 8, 7, 6, …}

c. Change to listing/roster method to express the set of integers which when squared equal 36.

c. {−6, 6}

4. Describe each as finite or infinite. (1 pt/problem)

a. {y: y is real number between 8 and 80} infinite

b. {y: y is a word in the English Language} finite

5. Draw a bag diagram to illustrate the set {7, {3, 6}, {∅}}. (2 pts)