

Math 1303 - Math in the Liberal Arts

Quiz #5 - 2014.09.15

Solutions

Consider the following sets:

$$S = \{x \mid x \text{ is a positive power of } 4\}$$

$$T = \{0, 1, 2, 3, 4, 5, 6\}$$

$$B = \{\text{Jimbo, Billy, Bob, Sally Mae, Jessie, Dwayne, Hank}\}$$

$$C = \{\text{Billy, Bob, Jimbo, Sally Mae, Jessie, Hank, Dwayne}\}$$

1. Express the set S in roster notation.

$$S = \{4, 16, 64, \dots\}$$

2. What is $n(T)$?

There are seven elements in the set T , thus $n(T) = 7$.

3. Express the set T in set-builder notation.

Note, answers will vary.

$$T = \{x \mid x \text{ is an integer greater than } -1 \text{ and less than } 7\}$$

4. Does $n(B) = n(C)$?

Yes, there are seven elements in both sets, thus $n(B) = n(C)$.

5. Does $B = C$?

Yes, there are exactly the same seven elements in both sets, thus $B = C$.

6. Does $n(T) = n(B)$?

Yes, there are seven elements in both sets, thus $n(T) = n(B)$.

7. Does $T = B$?

No, each set has different elements, thus they are not equal.