

# Math 1303 - Math in the Liberal Arts

Quiz #7 - 2014.09.19

Solutions

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Consider the following sets:

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

$$T = \{0, 2, 4, 6\}$$

$$U = \{0, 2, 4, 6, \dots\}$$

$$V = \{x \mid x \text{ is a prime number}\}$$

$$W = \{1, 3, 5, 7\}$$

$$X = \{1, 3, 5, 7, \dots\}$$

1. Express  $U \cap V$  in set notation.

$$U \cap V = \{2\}$$

2. Express  $S \cap T$  in set notation.

$$S \cap T = \{4\}$$

3. Express  $T \cup W$  in set notation.

$$T \cup W = \{0, 1, 2, 3, 4, 5, 6, 7\}$$

4. Express  $T \cap W$  in set notation.

$$T \cap W = \{\}$$

5. Express  $U \cup X$  in set notation.

$$U \cup X = \{0, 1, 2, 3, 4, 5, 6, 7, \dots\}$$

6. Express  $S \cap X$  in set notation.

$$S \cap X = \{\}$$