
For each of the following problems, find the requested set. There is no partial credit on this part of the quiz. For each of the following problems use the sets:

$$U = \{1, 2, 3, 4, 5\}$$

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

$$Y = \{1, 2, 3\}$$

$$Z = \{3, 4, 5\}$$

1. $X \cup Y =$

2. $X \cap Y =$

3. $X' =$

4. $X \cup (Y \cap Z) =$

5. $Y' \cap X =$

6. $X \cup U =$

7. $X \cap \emptyset =$

Complete the following problem. Show all work, including an explanation, to receive full credit.

8. Explain why $n(\mathbb{N}) = n(\mathbb{Z})$.