

# Cementing your understanding

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# A test of the concepts

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Suppose  $\Omega = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ ,  $A = \{4, 5, 6, 9\}$ , and  $B = \{2, 4, 6, 10\}$ .  
Determine the complements (of both), union, intersection, set differences (in both directions), and symmetric difference.



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$$A^c = \{1, 2, 3, 7, 8, 10\}, \quad B^c = \{1, 3, 5, 7, 8, 9\}$$

$$A \cup B = \{2, 4, 5, 6, 9, 10\}$$

$$A \cap B = \{4, 6\}$$

$$A \setminus B = \{5, 9\}, \quad B \setminus A = \{2, 10\}$$

$$A \triangle B = \{2, 5, 9, 10\}$$