



Student Name: SOLUTIONS

$S = \{x \mid x \text{ is an integer between 1 and 20 inclusively}\}$

$A = \{x \mid 4 \leq x \leq 10\}$

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

$C = \{x \mid x \text{ is divisible by either 3 or 5 or both}\}$

$D = \{x \mid x \text{ is an odd number}\}$

Hint: Start by listing out the elements of each of the following events:

$A = \{4, 5, 6, 7, 8, 9, 10\}$

$B = \{2, 3, 5, 7, 11, 13, 17, 19\}$

$C = \{3, 5, 6, 9, 10, 12, 15, 18, 20\}$

$D = \{1, 3, 5, 7, 9, 11, 13, 15, 17, 19\}$

$A \cap B = \{5, 7\}$

$A \cap C = \{5, 6, 9, 10\}$

$A \cap D = \{5, 7, 9\}$

$B \cap C = \{3, 5\}$

$B \cap D = \{3, 5, 7, 11, 13, 17, 19\}$

$C \cap D = \{3, 5, 9, 15\}$

$A \cap B \cap C = \{5\}$

$A \cap B \cap D = \{5, 7\}$

$B \cap C \cap D = \{3, 5\}$

$A \cap C \cap D = \{5, 9\}$

$A \cap B \cap C \cap D = \{5\}$

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