

SETS

INTERSECTION AND UNION

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SETS			Ref: G986. 7R1
A1	A2	A3	A4
$A = \{2, 3, 5, 7, 11\}$	$A = \{ \text{factors of } 100 \}$	$A = \{c, h, i, n, a\}$	$A = \{s, u, p, e, r\}$
$B = \{3, 5, 7, 9\}$	$B = \{$ multiples of 5 $\}$	$B = \{i, t, a, l, y\}$	$B = \{c, o, m, p, u, t, e, r\}$
List $A \cup B$	List $A \cap B$	List $A \cup B$	List $A \cap B$
B1	B2	B3	B4
$A = \{1, 3, 6, 10, 15\}$	$S = \{s, q, u, a, r, e\}$	$\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8\}$	$M = \{2, 4, 6, 8, 10\}$
$B = \{3, 6, 9, 12\}$	$V = \{a, e, i, o, u\}$	$A = \{2, 3, 5\}$	$N = \{1, 3, 5, 7, 9\}$
Find $n(A \cup B)$	Find $n(S \cap V)$	Find n(A')	Find $n(M \cap N)$
C1	C2	C3	C4
$A = \{2, 4, 6, 8, 10\}$	$A = \{$ multiples of 5 $\}$	$\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$	$\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$
$B = \{1, 3, 5, 7, 9\}$	$D = \{\text{prime numbers}\}$	$A = \{\text{even numbers}\}$ $B = \{\text{multiples of 3}\}$	$A = \{1, 3, 5, 7\}$ $B = \{2, 4, 6, 8\}$
Explain why $A \cap B = \emptyset$	Is it true that $A \cap D = \emptyset$?	$x \in B$ and $x \notin A$	$x \in \mathcal{E}$ and $x \notin A \cup B$
		What are the possible values of <i>x</i> ?	What is the value of <i>x</i> ?
D1	D2	D3	D4
$\mathcal{E} = \{\text{even numbers}\}$	$\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7\}$	$\mathcal{E} = \{2, 4, 6, 8, 10, 12, 14\}$	$A = \{3, 4, 5\}$
$A = \{2, 4, 6, 8, 10\}$	$A = \{2, 3, 4, 5\}$	$A = \{2, 6, 8, 12\}$	$A \cup B = \{1, 2, 3, 4, 5\}$
<i>B</i> is such that $A \cap B = \{4, 8\}$ and $n(B) = 3$.	C is such that $A \cap C = \{4, 5\}$ and $n(C) = 4$.	C is such that $A \cap C = \emptyset$ and $n(C) = 3$.	<i>B</i> has as few members as possible.
List a possible set <i>B</i> .	List a possible set <i>C</i> .	List set C.	List set <i>B</i> .

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A1	A2	A3	A4
$A = \{2, 3, 5, 7, 11\}$	$A = \{ \text{factors of } 100 \}$	$A = \{c, h, i, n, a\}$	$A = \{s, u, p, e, r\}$
$B = \{3, 5, 7, 9\}$	$B = \{ \text{multiples of } 5 \}$	$B = \{i, t, a, l, y\}$	$B = \{c, o, m, p, u, t, e, r\}$
List $A \cup B$ { 2, 3, 5, 7, 11, 9 }	List $A \cap B = \{ 5, 10, 20, 50, 100 \}$	List $A \cup B$ { c, h, i, n, a, t, l, y }	List $A \cap B$ { u, p, e, r }
B1 $A \cup B = \{1, 3, 6, 10, 15, 9, 12\}$	B2 $\otimes \cap \forall = \{ u, a, e \}$	B3 $A' = \{1, 4, 6, 7, 8\}$	B4 $M \cap N = \emptyset$
$A = \{1, 3, 6, 10, 15\}$	$S = \{ \text{s}, q, u, a, r, e \}$	$\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8\}$	$M = \{2, 4, 6, 8, 10\}$
$B = \{3, 6, 9, 12\}$	$V = \{a, e, i, o, u\}$	$A = \{2, 3, 5\}$	$N = \{1, 3, 5, 7, 9\}$
Find n(A \cap B) = 7	Find n(S $\cap V$) = 3	Find n(A') = 5	Find n($M \cap N$) = 0
C1 $A = \{2, 4, 6, 8, 10\}$ $B = \{1, 3, 5, 7, 9\}$ Explain why $A \cap B = \emptyset$ There are NOT ANY elements IN BOTH set A and set B	C2 $A = \{ \text{multiples of 5} \}$ $D = \{ \text{prime numbers} \}$ Is it true that $A \cap D = \emptyset$? It's FALSE - number '5' is in both sets	C3 x = 3 or 9 $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ $A = \{\text{even numbers}\}$ $B = \{\text{multiples of }3\}$ $x \in B \text{ and } x \notin A$ What are the possible values of x ?	C4 $\chi = 9$ $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$ $A = \{1, 3, 5, 7\}$ $B = \{2, 4, 6, 8\}$ $x \in \mathcal{E}$ and $x \notin A \cup B$ What is the value of x?
D1 $B = \{4, 8, any-even-number-$ $\mathcal{E} = \{\text{even numbers}\}\$ bigger-then-10 } $A = \{2, 4, 6, 8, 10\}$ $B \text{ is such that } A \cap B = \{4, 8\}$ and $n(B) = 3$. List a possible set B .	D2 $C = \{ 4, 5, 1, 6 \}$ $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7\}$ $\{ 4, 5, 1, 7 \}$ $A = \{2, 3, 4, 5\}$ or $\{ 4, 5, 6, 7 \}$ C is such that $A \cap C = \{4, 5\}$ and $n(C) = 4$. List a possible set C .	D3 $C = \{ 4, 10, 14 \}$ $\mathcal{E} = \{2, 4, 6, 8, 10, 12, 14\}$ $A = \{2, 6, 8, 12\}$ C is such that $A \cap C = \emptyset$ and $n(C) = 3$. List set C .	D4 $A = \{3, 4, 5\}$ $A \cup B = \{1, 2, 3, 4, 5\}$ <i>B</i> has as few members as possible. List set <i>B</i> .