

Let $U = \{1, 2, \dots, 12\}$
 $A = \{1, 3, 5, 7, 9, 11\}$
 $B = \{2, 3, 5, 7, 11\}$
 $C = \{2, 3, 6, 12\}$ $D = \{2, 4, 8\}$
 $A \cup B, A \cap C, (A \cup B) \cap C^c$
 $A \setminus B, C \setminus D, B \oplus D$

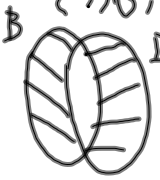
م 20-01:25 نابعش

$A \cup B$
 $\{1, 3, 5, 7, 9, 11, 2\}$
 $A \cap C$
 $\{3\}$
 $(A \cup B) \cap C^c$
 $\{1, 3, 5, 7, 9, 11, 2\} \cap \{1, 4, 5, 7, 8, 9, 10, 11\}$
 $\{1, 5, 7, 9, 11\}$

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$A \setminus B:$
 $\{1, 9\}$
 $C \setminus D:$
 $\{3, 6, 12\}$

$B \oplus D:$
 $U = \{2, 3, 5, 7, 11\}$
 $\cap = \{3\}$
 $\setminus = \{4, 5, 7, 11\}$



م 20-01:50 نابعش


Let $U = \mathbb{R} =]-\infty, +\infty[$

- $[0, 3] \cap [2, 6]$
- $[0, 3] \cup [2, 6]$
- $[0, 3] \setminus [2, 6]$
- $[0, 3] \oplus [2, 6]$
- $[0, 3]^c$
- $[0, 3] \cap \emptyset$


$[0, \infty[\cap \mathbb{Z}$
 $[0, \infty[\cup \{2\}$

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- $[0, 3] \cap [2, 6] = [2, 3]$




- $[0, 3] \cup [2, 6] = [0, 6]$



م 20-02:16 نابعش

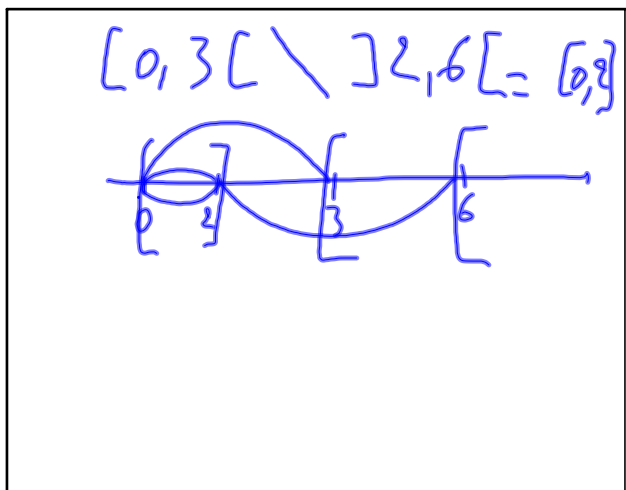
$[0, 3] \setminus [2, 6] = [0, 2[$



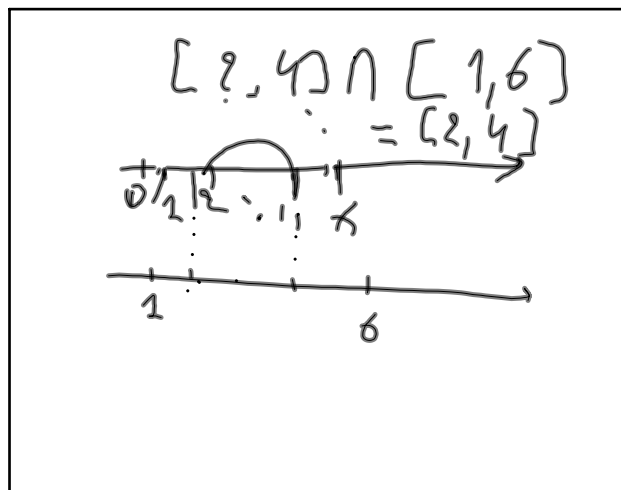
$[0, 2[$
 $[3, 6]$

$\{0, 1, 2\}$
 $2, 3, 4, 5, 6$

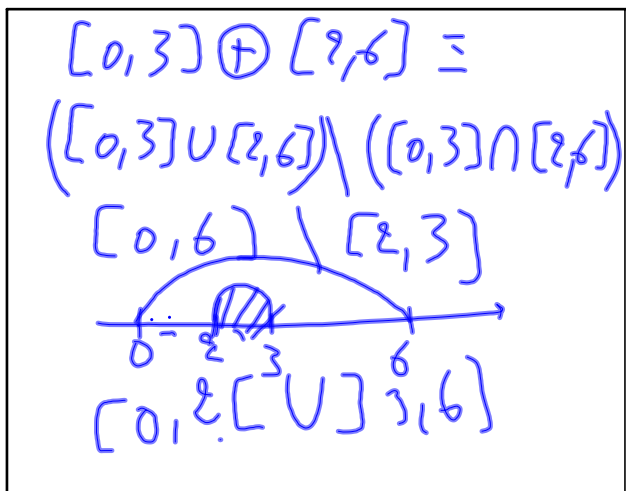
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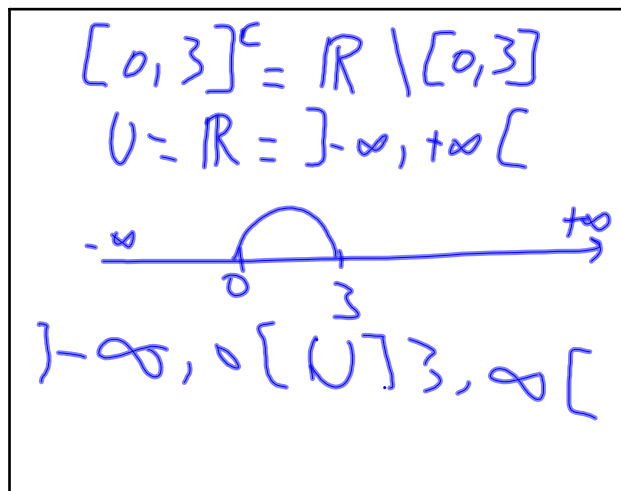
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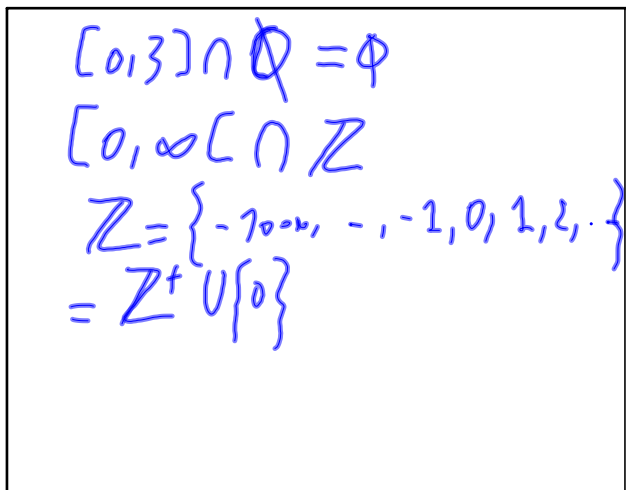
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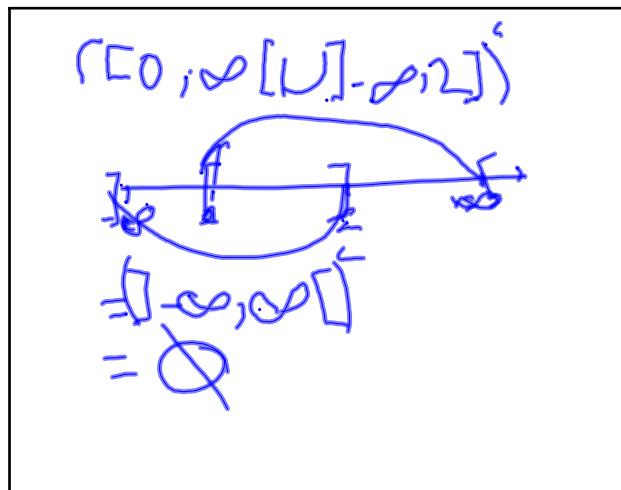
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م 20-02:42 نابعش



م 20-02:47 نابعش



م 20-02:55 نابعش

Let $S = \{0, 1, 2, 3, 4\}$
 $T = \{0, 2, 4\}$

- How many ordered pairs are in $S \times T$? $T \times S$?
- List the elements in the set $\{(m, n) \in S \times T : m < n\}$

م 20-03:07 ناب ع ش

- $5 \times 3 = 15$
 $3 \times 5 = 15$

$S \times T = \{(0,0), (0,2), (0,4), (1,0), (1,2), (1,4), (2,0), (2,2), (2,4), (3,0), (3,2), (3,4), (4,0), (4,2), (4,4)\}$

$\{(3,4), (0,2), (0,4), (1,2), (1,4), (2,4)\}$

م 20-03:23 ناب ع ش