

Sandbags

Bermudez
11-04-20
WC 24

Midterm Work

Co. 14

9. Find examples of sets A and B such that
 $|A| = 4$, $|B| = 5$, and $|A \cup B| = 9$.

$A = ?$

$|A| = 4$ implies 4 objects in set A

$B = ?$

the number of objects in set B.

$A \cup B = ?$

$A = \{ \text{Superman, Batman, Flash, Joker} \}$

$B = \{ \text{Ironman, Spiderman, Molek, Thor, Hulk} \}$

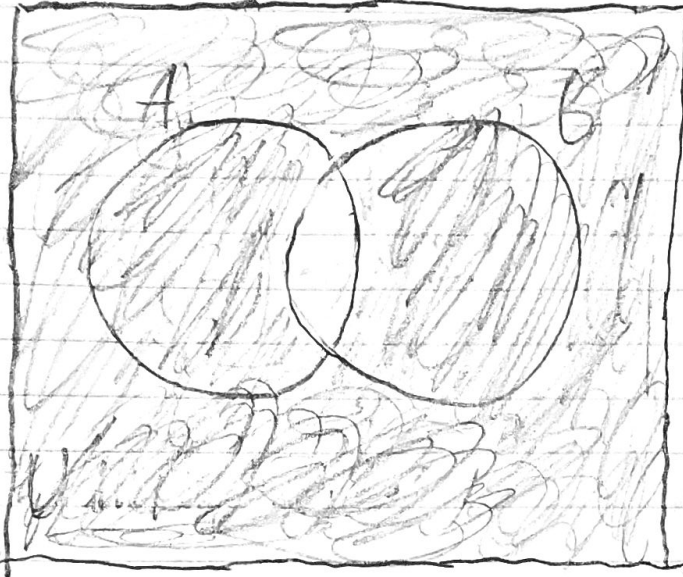
$A \cup B = \{ \text{Superman, Batman, Flash, Joker, Ironman, Spiderman, Molek, Thor, Hulk} \}$

10. a) $A \cup B$

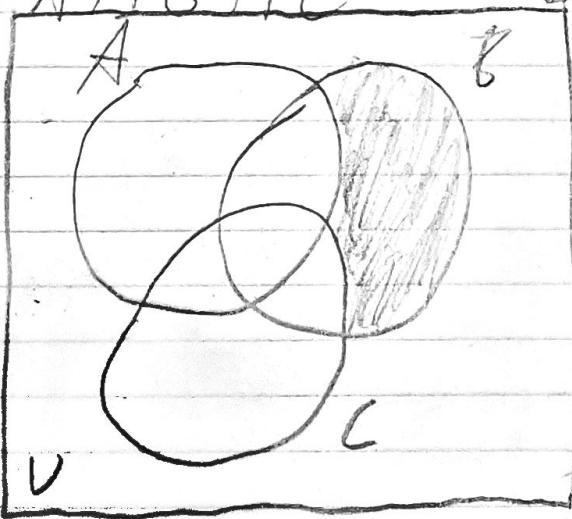
$B = B^c$ Horizontal bar on top
is the same as complement



b) $\bar{A} \cup \bar{B}$



c) $\bar{A} \cap B \cap C$

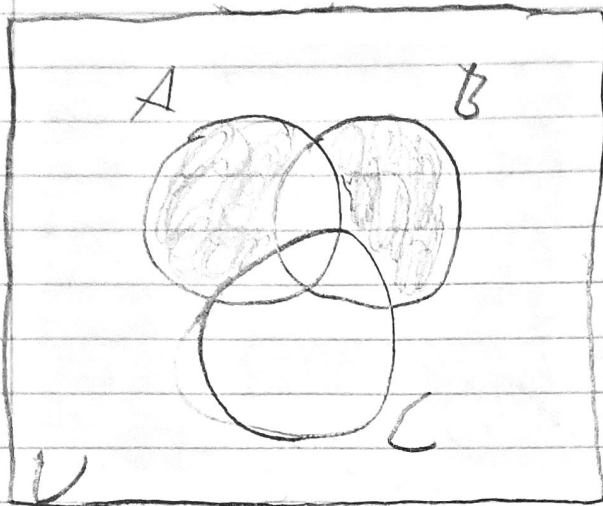


Only B and C
not A

Santiago

Bombero
11-04-20
CSC 78

Helping Work
 $D(A-B) \cup (A-C) \cup (B-C)$



11. 4 cars and 3 trucks (all unique)

7 car colors and 8 truck colors

$$7C_4 \rightarrow \frac{7!}{(7-4)!4!} = \frac{5040}{6 \times 24} = 35$$

$$8C_3 \rightarrow \frac{8!}{(8-3)!3!} = \frac{40320}{120 \times 6} = 56$$

$$35 + 56 = 91$$