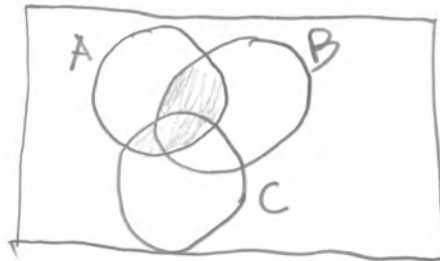


## Sample Questions: Sets

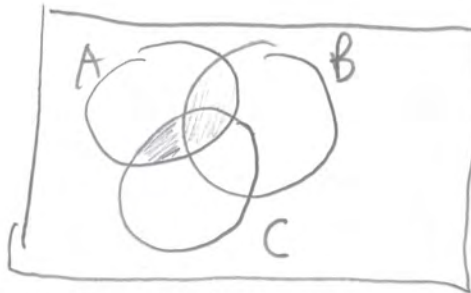
STA256 Fall 2019. Copyright information is at the end of the last page.

1. Draw a Venn diagram illustrating a distributive law:

(a)  $A \cap (B \cup C)$ .



(b)  $(A \cap B) \cup (A \cap C)$



2. Draw a Venn diagram illustrating a distributive law:

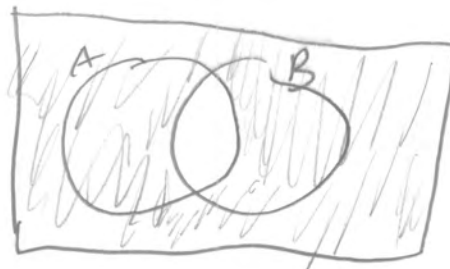
(a)  $A \cup (B \cap C)$ .

Exercise

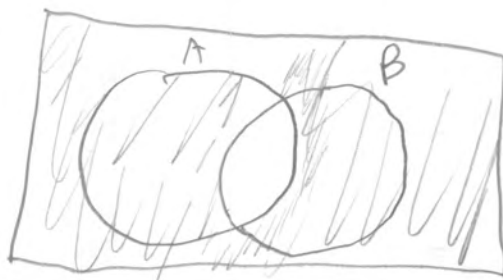
(b)  $(A \cup B) \cap (A \cup C)$

3. Draw a Venn diagram illustrating a De Morgan law:

(a)  $(A \cap B)^c$ .



(b)  $A^c \cup B^c$



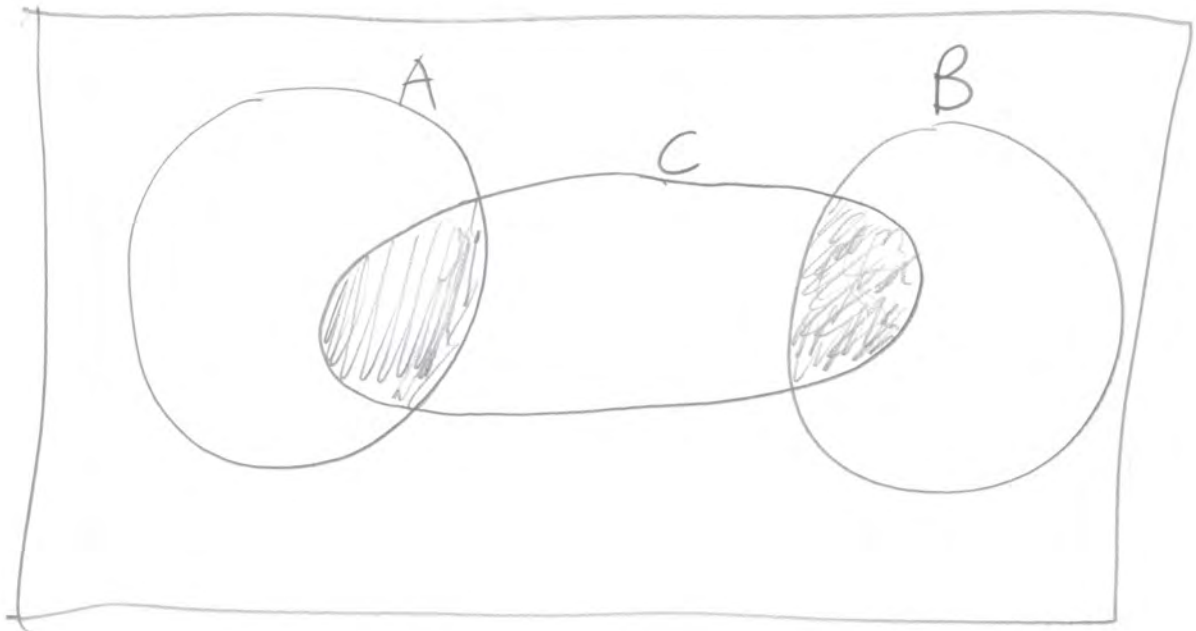
4. Draw a Venn diagram illustrating a De Morgan law:

(a)  $(A \cup B)^c$ .

EXERCIS 4

(b)  $A^c \cap B^c$

5. Draw a Venn diagram showing that if  $A$  and  $B$  are disjoint, then  $A \cap C$  and  $B \cap C$  are also disjoint.



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This assignment was prepared by Jerry Brunner, Department of Mathematical and Computational Sciences, University of Toronto. It is licensed under a Creative Commons Attribution - ShareAlike 3.0 Unported License. Use any part of it as you like and share the result freely. The  $\text{\LaTeX}$  source code is available from the course website:

<http://www.utstat.toronto.edu/~brunner/oldclass/256f19>