

# Quiz 1

## CMPSC 360

Kinner Parikh  
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### Question 1:

$$\{x|x \in \mathbb{Q} \wedge x \geq 5 \wedge x < 11\}$$

### Question 2:

Prove  $A \times (B \cap C) = (A \times B) \cap (A \times C)$

Suppose:  $\{x|x \in A \times (B \cap C)\}$

Definition of set intersection:  $\{x|x \in A \times (B \text{ and } C)\}$

Distribution Rules:  $\{x|x \in (A \times B) \text{ and } (A \times C)\}$

Definition of set intersection:  $\{x|x \in (A \times B) \cap (A \times C)\}$

Therefore:  $A \times (B \cap C) = (A \times B) \cap (A \times C)$