AP Calculus AB
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Activity 0801
Thursday, August 1, 2024

Name:

Problem 1. Let $A = \{1, 4, 5, 6, 7\}$.
Let $B = \{3, 5, 7, 9, 11\}$.
Compute the following sets.

(a) $A \cup B$

(b) $A \cap B$

(c) $A \setminus B$

(d) $B \setminus A$

(e) $(A \cup B) \setminus (A \cap B)$

Problem 2. Let $A = \{n \in \mathbb{Z} \mid -1 \leq x < 5\}$.
Let $B = \{n \in \mathbb{Z} \mid n^2 \leq 15\}$.
Compute the following sets in roster notation.

(a) A and B

(b) $A \cup B$

(c) $A \cap B$

(d) $A \setminus B$

(e) $B \setminus A$

Problem 3. Let $A = \{x \in \mathbb{R} \mid 2 < x < 7\}$.
Let $B = \{x \in \mathbb{R} \mid 4 \leq x \leq 10\}$.
Compute the following sets in set-builder notation.

(a) $A \cup B$

(b) $A \cap B$

(c) $A \setminus B$

(d) $B \setminus A$

(e) $(A \cup B) \setminus (A \cap B)$

Problem 4. Let $A = \{x \in \mathbb{R} \mid -1 < x \leq 5\}$.
Let $B = \{x \in \mathbb{R} \mid 3 \leq x < 4\}$.
Compute the following sets in set-builder notation.

(a) $A \cup B$

(b) $A \cap B$

(c) $A \setminus B$

(d) $B \setminus A$

(e) $(A \cup B) \setminus (A \cap B)$