Proof Writing: Set Theory (Day 2)

Chirath Nissanka

Nov 9 2023

1 Warm Up Excercies : Answers

1.

$$A = \{1, 2\}$$
$$B = \{2, 3\}$$
$$(A \times B) \cap (B \times B) =$$
$$\{\{1, 2\}, \{1, 3\}, \{2, 2\}, \{2, 3\}\} \cap \{\{2, 2\}, \{2, 3\}, \{3, 2\}, \{3, 3\}\}$$
$$= \{\{2, 2\}, \{2, 3\}\}$$

2.

$$(A \times B) \cap (B \times B) =$$
$$\{\{1, 2\}, \{1, 3\}, \{2, 2\}, \{2, 3\}\} \cap \{\{2, 2\}, \{2, 3\}, \{3, 2\}, \{3, 3\}\}$$
$$= \{\{2, 2\}, \{2, 3\}\}$$