California State University Sacramento - Math 101

Quiz #2

Name: _____

1) How many pairs of distinct integers $\{a, b\}$ with $a, b \in \{1, 2, \ldots, 10\}$ satisfy $|a - b| = 3$?

2) How many pairs of distinct integers $\{a, b\}$ with $a, b \in \{1, 2, \ldots, 10\}$ satisfy $|a - b| \leq 3$?

3) Find the number of positive divisor of $1800 = 2^3 \cdot 3^2 \cdot 5^2$ which are multiples of 3.

4) Find the number of positive divisors of $1800 = 2^3 \cdot 3^2 \cdot 5^2$ that are multiples of 6.

5) Let $A_1 = \{1, 2, 3\}$, $A_2 = \{2, 3\}$, and $A_3 = \{1, 2, 3, 4\}$. Find the number of 3-tuples (a_1, a_2, a_3) where $a_1 \in A_1$, $a_2 \in A_2$, and $a_3 \in A_3$.