

California State University Sacramento - Math 101

Homework Assignment 2

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5) Find the number of ordered pairs (x, y) of integers such that $x^2 + y^2 \leq 4$.

Remark: This problem is similar to Example 1.1.2.

6) Find the number of sequences $a_1a_2a_3$ of length 3 where $a_i \in \{0, 1, 2, 3, 4\}$.

Remark: This is a special case of Example 1.1.4.

7) Let $X = \{1, 2, \dots, 10\}$ and let

$$S = \{(a, b, c) : a, b, c \in X, a < b \text{ and } a < c\}.$$

Find $|S|$.

Remark: This problem is similar to Example 1.1.6.