PEP Grade 6 Math — Unit 5: Math in Action: Pigeonhole Principle · Unit Test (Basic)

PEP · Grade 6 · Term 2 · Mathematics · Unit Test · Basic

AI-generated practice paper · original study aid, not an official examination paper · 40 questions · 100 points

Name: _____ Date: _____ Score: _____

Answer all questions. This paper is worth 100 points. Show your working where appropriate.

I. Multiple Choice

1. If 3 pigeons are placed into 2 pigeonholes, what is the minimum number of pigeons that must be in at least one hole?
   A. 1 B. 2
   C. 3 D. 4

2. There are 7 books and 6 shelves. What is the smallest number of books that must be on the same shelf if they are distributed evenly?
   A. 1 B. 2
   C. 3 D. 4

3. In a group of 10 people, each person has a birthday in one of 9 months. What can we conclude about birthdays using the pigeonhole principle?
   A. At least two people share the same birthday month.
   B. All have different birthday months.
   C. No more than one person shares a month.
   D. Exactly two people share a month.

4. If 13 students are seated in 12 chairs, what is guaranteed to happen?
   A. One chair will be empty.
   B. At least one chair will have two students.
   C. Each chair has exactly one student.
   D. All students sit separately.

5. What is the minimum number of socks needed to guarantee a matching pair from a drawer with 4 different colors?
   A. 2 B. 3
   C. 4 D. 5

6. There are 100 candies and 99 children. If each child gets at least one candy, what must be true?
   A. All children get exactly one candy.
   B. At least one child gets more than one candy.
   C. No child gets more than one candy.
   D. One child gets all candies.

7. How many integers must be selected from 1 to 10 to ensure at least two are consecutive?
   A. 5 B. 6