

Example of a Proof Using the Pigeonhole Principle

1. Prove the following:

Claim: There are two students in our class who were born in the same month.

Proof.

Number of students in the class (The pigeons)

According to the official roster, there are 27 students in this class.

Number of months in the year (The pigeonholes)

There are 12 months in the year.

Conclusion

Since there are more students than there are months of the year, by the Pigeonhole Principle, two students must have been born in the same month.

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