MAT385 Quiz 04, Spring 2025

There are three problems (one on the back).

1. Do a direct proof that the sum of three consecutive integers is divisible by 3. (**Hint:** what formula do you use to write the three consecutive integers?)

2. Prove that if n + 1 passwords are issued to n students, the some student gets 2 or more passwords. Do a proof by contraposition.

| ა. | Is enduction to prove that for any positive integer n , the number $2^{2n}-1$ is divisible by 3. | |
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