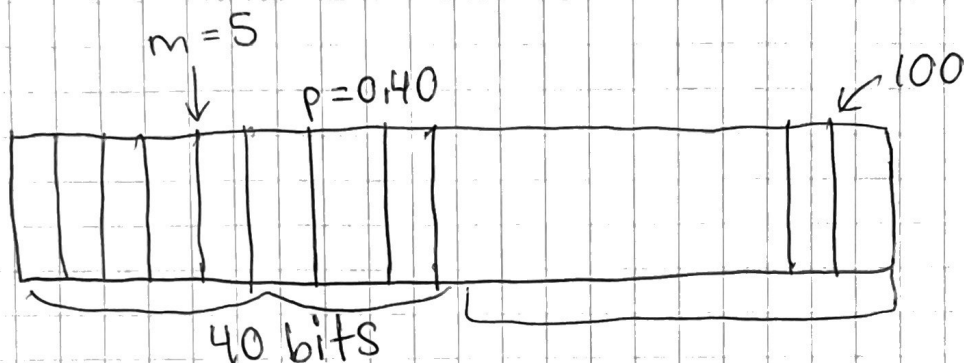## Problem 8

Given a biased coin analogy, if a bit vector is 40% full, what are the odds that 5 bits randomly chosen all fall within the filled section,

Probability (one bit) $: \left(\frac{40}{100}\right) = 0.4$

Probability (5 bits) $: \left(\frac{40}{100}\right)^5 = 0.01024 = \boxed{1.024\%}$