

187 §3- DISCRETE MATHEMATICS - Quiz 12
(Optional)

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Name _____

1. (a) How many terms does the expansion of $(x + 2y - 3z)^8$ have?
(b) Find the coefficient of x^3y^5 in this expansion.
2. Let $A = \{0, 1, 2, \dots, 23, 24\}$.
 - (a) Consider the function $f : A \rightarrow A$ given by $f(x) = (7x \bmod 25)$. Show that f is one-to-one.
 - (b) Find (with proof) an integer c with $0 < c < 25$ such that the function $g : A \rightarrow A$ given by $g(x) = (cx \bmod 25)$ is *not* onto.