

# Number Theory Quiz I

RDB

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**Problem 1** How many 1's are there in the binary (base 2) expansion of 56?

**Problem 2** Use the Euclidean algorithm to show that  $\gcd(10, 7) = 1$  and find integers  $(x_0, y_0)$  such that  $10x_0 + 7y_0 = 1$ . (No credit for other methods!)