CSc 245 Discrete Structures - Summer 2021

Quiz #5

Due: July 20th, 2021 by 11:59 pm (MST)

1. (1 point) What is the prime factorization of 360?

2. (1 point) Using their prime factorizations, find the greatest common divisor (GCD) of 360 and 270.

3. (1 point) True or False: In the function $f(x) = x - 1$ from $\{1, 2, 3, 4\}$ to $\{0, 1, 2, 3, 4\}$, the codomain is equal to the range.

4. (3 points) Let $f(x) = x^2$ where $x \in \mathbb{Z}$. Determine if $f(x)$ can be inverted. Explain why or why not.

5. (4 points) Consider the relation $R = \{(\alpha, a), (\beta, d), (\gamma, d), (\delta, e)\}$ where the domain is $\{\alpha, \beta, \gamma, \delta\}$ and the codomain is $\{a, b, c, d, e\}$. Is R a function? Why or why not?