Tutorial 5

Numbers

Question 1: Simple Proof

❑ Prove that for all integers $a, b,$ and $c,$ if $a|b$ and $a|c,$ then $a|(b+c).$

Question 2: Simple Proof

❑ Prove that the square of any odd integer has the form $8m + 1$ for some integer m.

Question 3: Euclidean Algorithm

❑ Compute gcd(65432, 8642).

<u>Question 4: Extended Euclidean Alg.</u>

❑ Find a solution in integers to the equation

$$65432x + 8642y = \gcd(65432, 8642).$$