1. Pick any number and add 10 to the number. Divide the sum by 5. Multiply the quotient by 5. Subtract 10 from the product . Then subtract your original number.

a. What is the result

b. Arbitrarily select some different numbers and repeat the process

c. Can a conjecture be made regarding the result when this process is followed?

d. Try to prove using deductive reasoning, the conjecture you made in part(c).

2. You have 13 coins which all look alike. Twelve coins weigh exactly the same but the other one is heavier. You have a pan balance. Tell how to find the heavier coin in just three weighings. Please explain how you arrived at your answer.