Day 2 Brain Teasers - Week 2

Batch I - Vikings
Time Limit: 30 Minutes

June 18, 2019

1 Algebra/Pre-Algebra Again!

1. On a English test, 25 students earned an C. This number is exactly 20% of the total number of students in the class. How many students are in the class?

2. A total of 175 juniors and seniors were given a mathematics test. The 73 juniors attained an average score of 80 while the 102 seniors attained an average of 70. What was the average score for all 175 students who took the test?
   Round your answer to the nearest whole number.

3. Solve the following system of linear equations for x and y:
   $4x - y = -1$
   $6x + 5y = 18$

4. Solve the following inequality for x:
   $x + \frac{1}{x} < (\frac{1}{2})(7 - x)$

5. Solve the following equation for x:
   $14x + 6 = -4x^2$

2 Brain Teasers!:

6. You have 100 Rs with you. You go to a shop and shopkeeper tells you that the price of 1 chocolate is 5 Rupees. He also tells you that you can get a chocolate in return of 2 wrappers. What is the maximum number of chocolates you can eat ?

7. You have 4 bottles of milk. One of them is poisonous while the other 3 are non-poisonous. There is a rat which dies exactly after 5 hours of drinking the poisoned bottle.
   You have a stopwatch that measures time only in in even hours. This means you will only know the time every two hours.
   What is the least amount of time in hours you will take to identify the poisoned bottle?.