

Quiz No.14

student:

Find the solution of the differential equation that satisfies the given initial condition (Pr1-Pr3)

Problem 1: $y' = y^2 \sin(x) - 2xy^2$ $y(0) = 3$

Problem 2: $y' = -y$ $y(1) = 1$

Problem 3: $3u^2u't = 1$ $u(1) = 2$

Problem 4: Compute the second and the fifth term of the sequence
 $a_n = \frac{(-1)^n(n+1)}{3^{n-3}}$

Problem 5: If the the third and the fifth terms of an arithmetic progression equal 3 and 12, what is the forth term?

Problem 6: Write the general term and the sum of the first 20 terms of the arithmetic progression that starts with 3, 7, 11, 15, 19...

Problem 7: Write the general term and the sum of the first 9 terms of the geometric progression that starts with 1, 2, 4, 8, 16...

Problem 8: What conditions ensures that an arithmetic progression will be increasing, respectively decreasing sequence?

Problem 9: Give an example of a geometric progression which has positive, as well as negative terms.

Problem 10: Solve the equation $\frac{3x}{1-x} = \frac{2}{2x-1}$.