MHT CET 2023 Question Paper Shift 2

Question 1. Sol^n of sinx + sin 5x= sin3x in (0,x/2) are?

Question 2. If (tan^{-1} x)^2 + (cot^{-1}x)^2 = 5xπ^2/8,x=?

Question 3. Variance of first 2n natural numbers?

Question 4. Solution of (1+xy) y dx+ (1-xy)x dy=0 is?

Question 5. Solution of sinx + sin5x = sin 3x in (0,π/2) are..?

Question 6. The principal value of sin^{-1}(sin 3π/4) is?

Question 7. If x dy= y(dx + ydy), x(1)=1, y(x)>0, then y (-3) is?

Question 8. Find probability of getting a black card on a face card from a well shuffled deck of 52 cards?

Question 9. Find area bounded by region, y=3x+1, y=4x+1 and x=3?

Question 10. If 1+ ($\sqrt{1+x}$) tanx = 1+ ($\sqrt{1-x}$) then sin 4x is..?