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***HOMEWORK***

***DISCRETE MATHEMATICS***

***PROBLEM SET 06***

***Problem 1:***

P(x) = (1).Δ1(x) + (2).Δ2(x) + (3).Δ3(x)

= 1\* + 2\* + 3\*

= - 2\* + 3\*

= x – 2

***Problem 2:***

P(x) = (4).(x) + (3).Δ2(x) + (5).Δ3(x)

= 4\* + 3\* + 5\*

= + +

= x + 2

***Problem 3:***

P(x) = (-2).Δ1(x) + (7).Δ2(x) + (20).Δ3(x)

= -2\* + 7\* + 20\*

= - +

=

***Problem 4:***

1. If official 3, 4 and 5 get together, they know P(3)=1, P(4)=6, P(5) = 3

=> P(x) goes through (3,1), (4,6) and (5,3) => P1(x) =

=> P(0) = 0 + 0 -62 = -62 => the secret S1 is -62

1. If official 1, 2 and 5 get together, they know P(1)=2, P(2)=2, P(5) = 3

=> P(x) goes through (1,2), (2,2) and (5,3) => P2(x) =

=>P(0) = => the secret S2 is