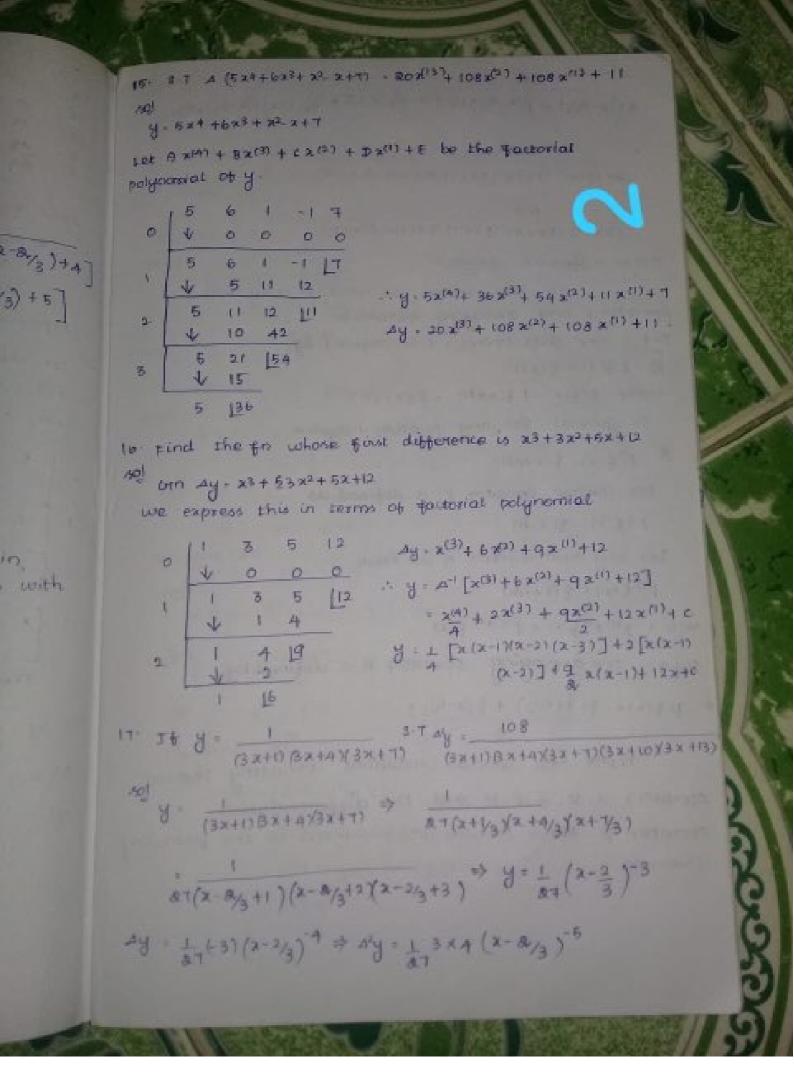
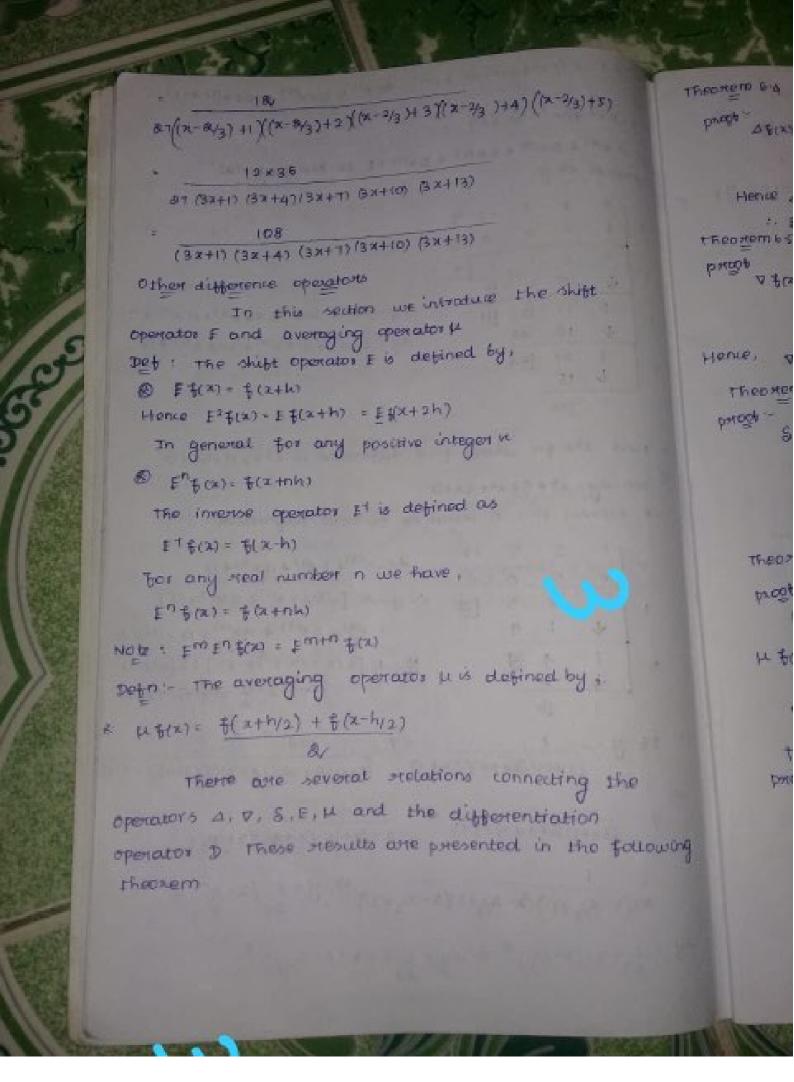
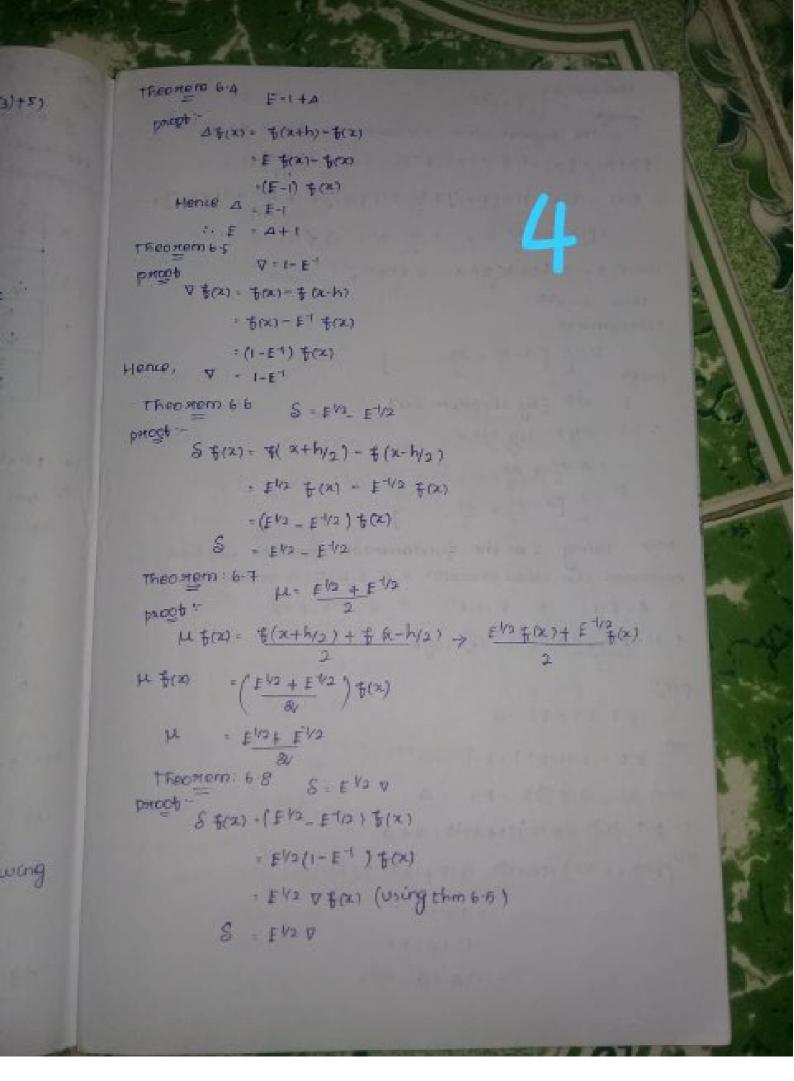


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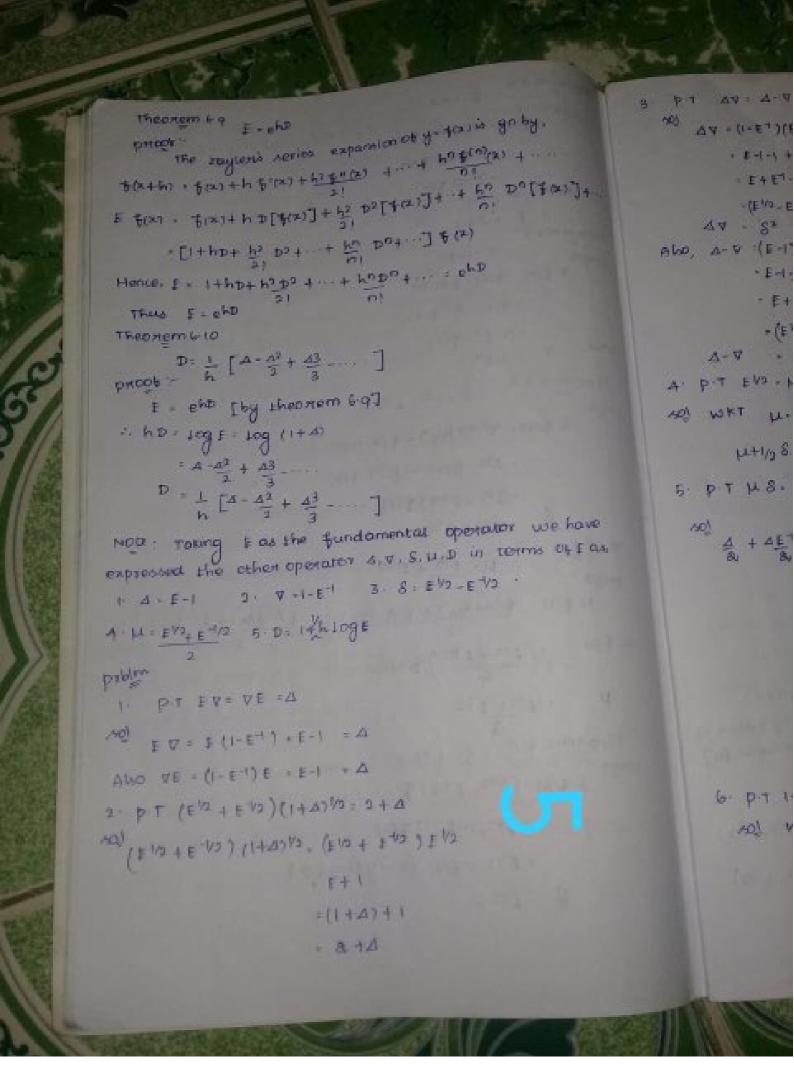




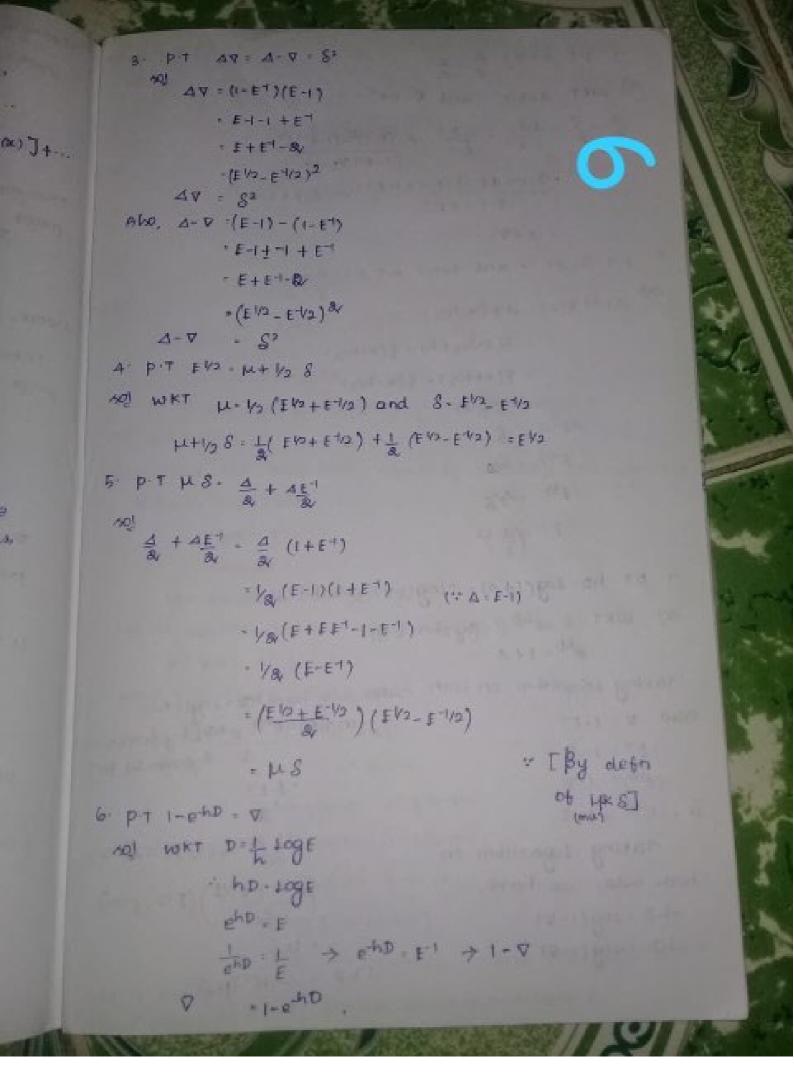
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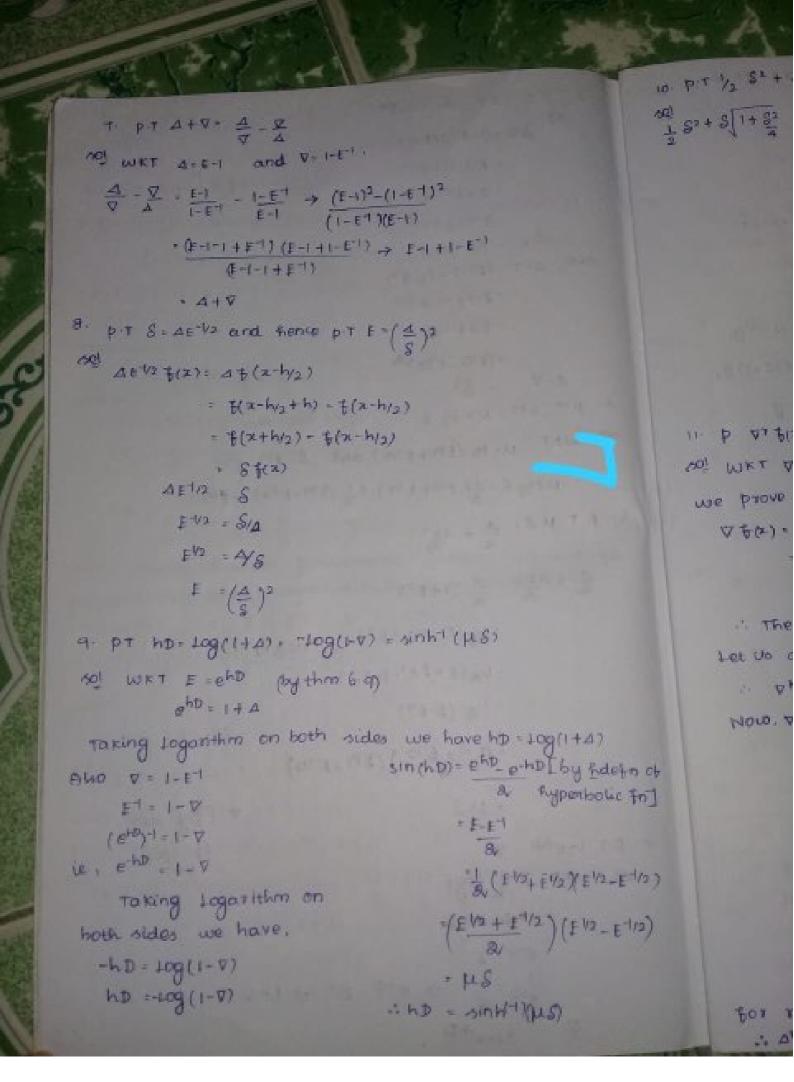
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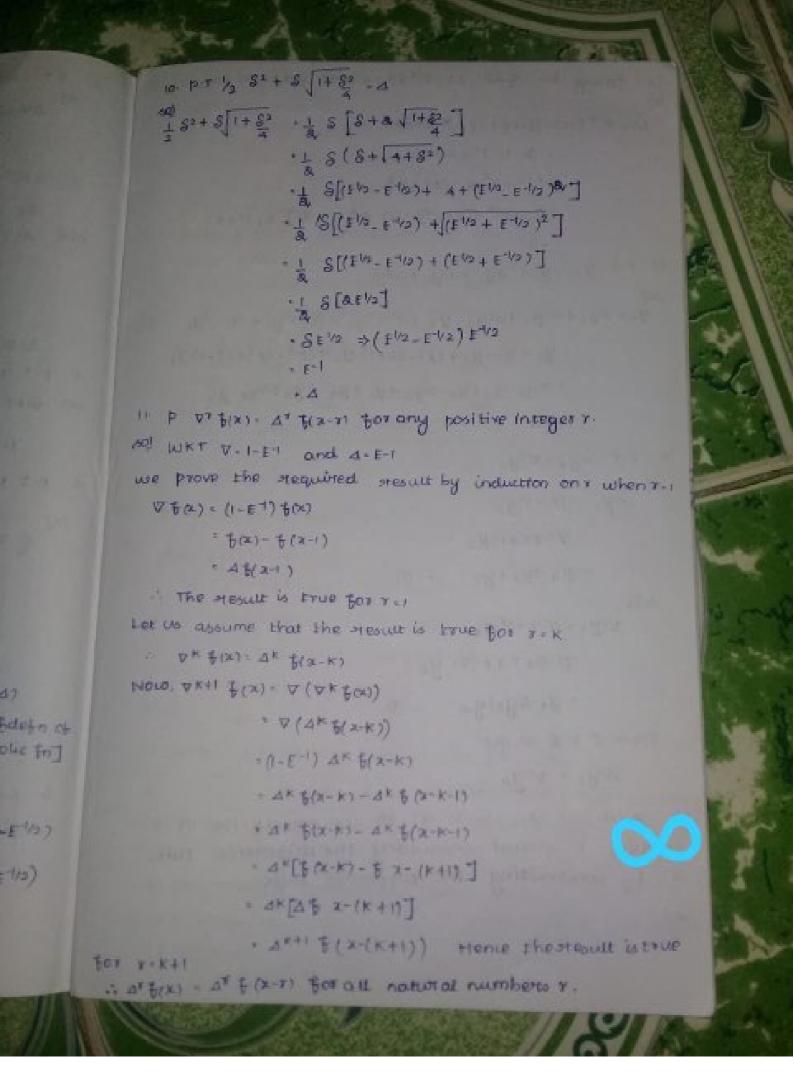
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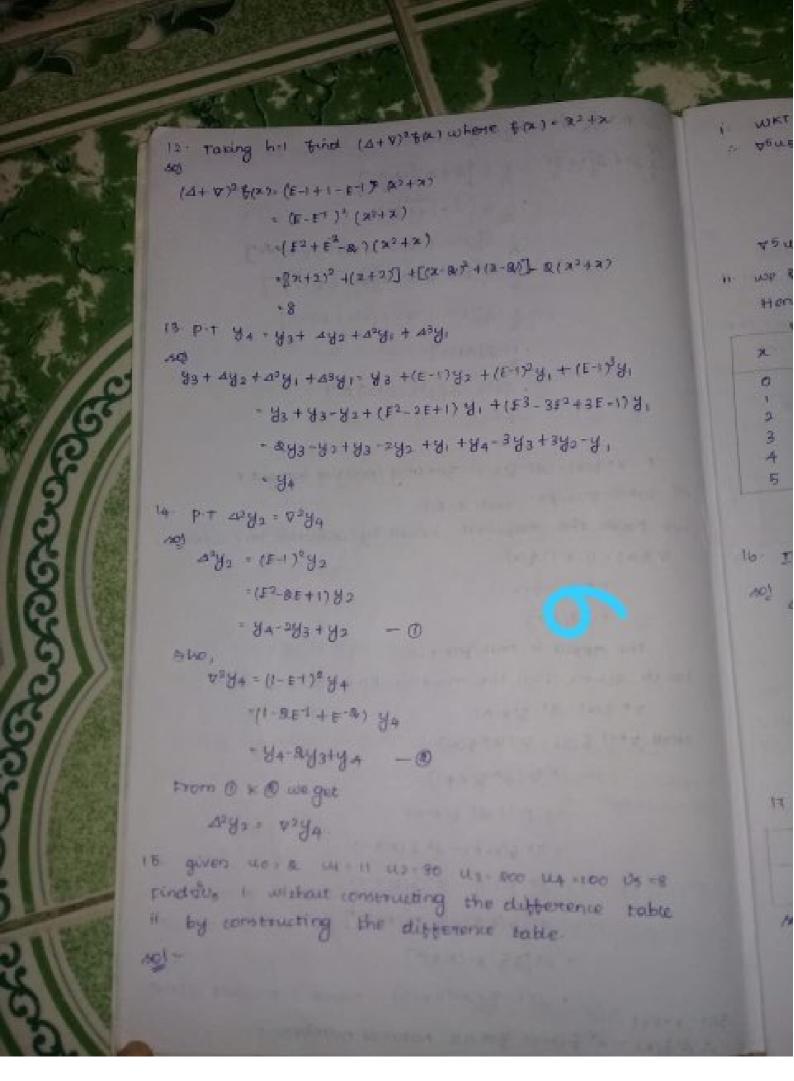


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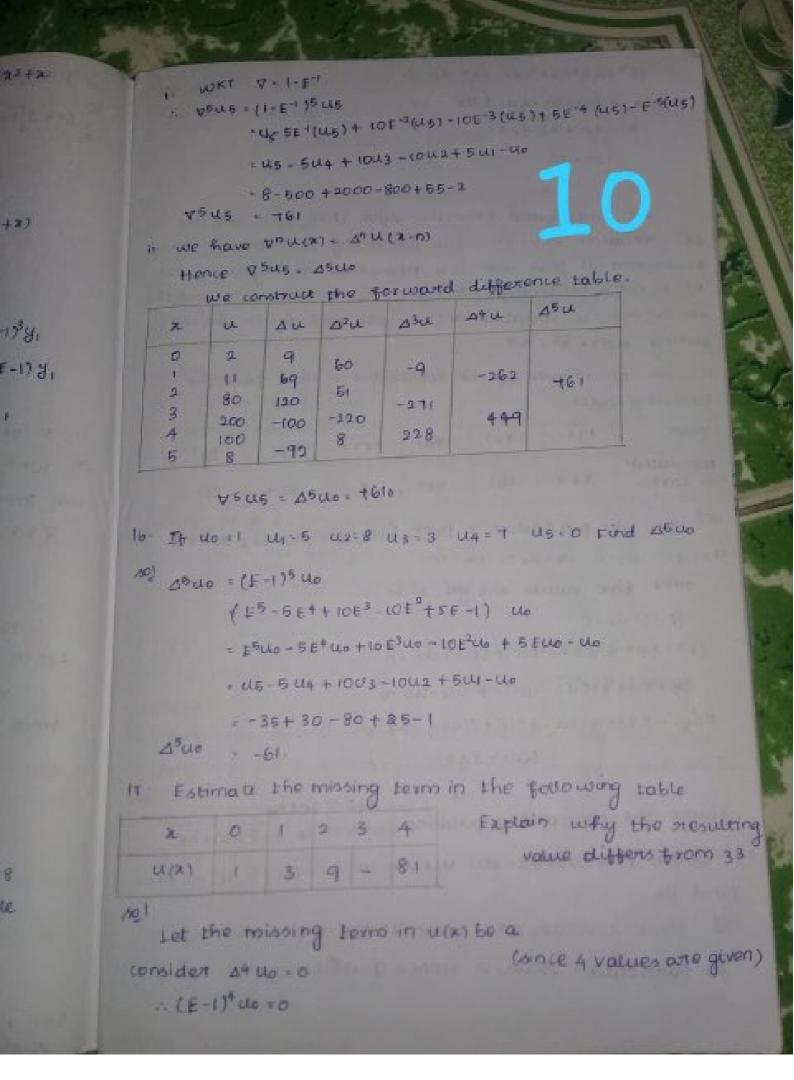


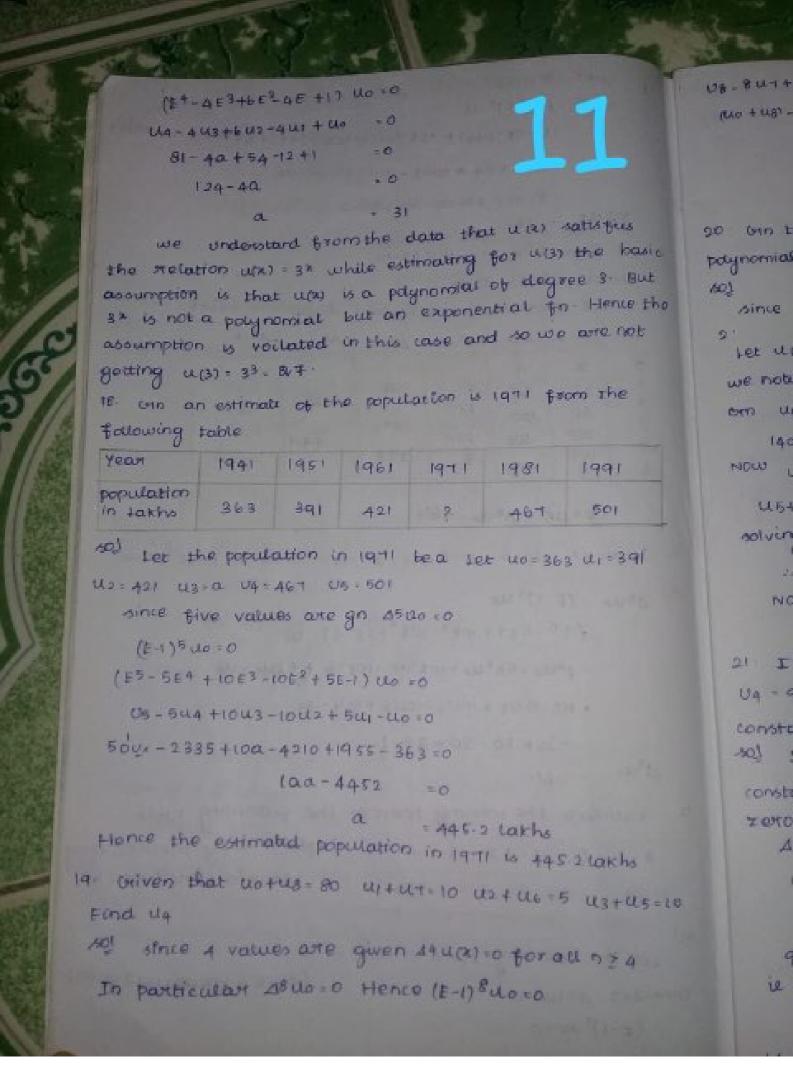
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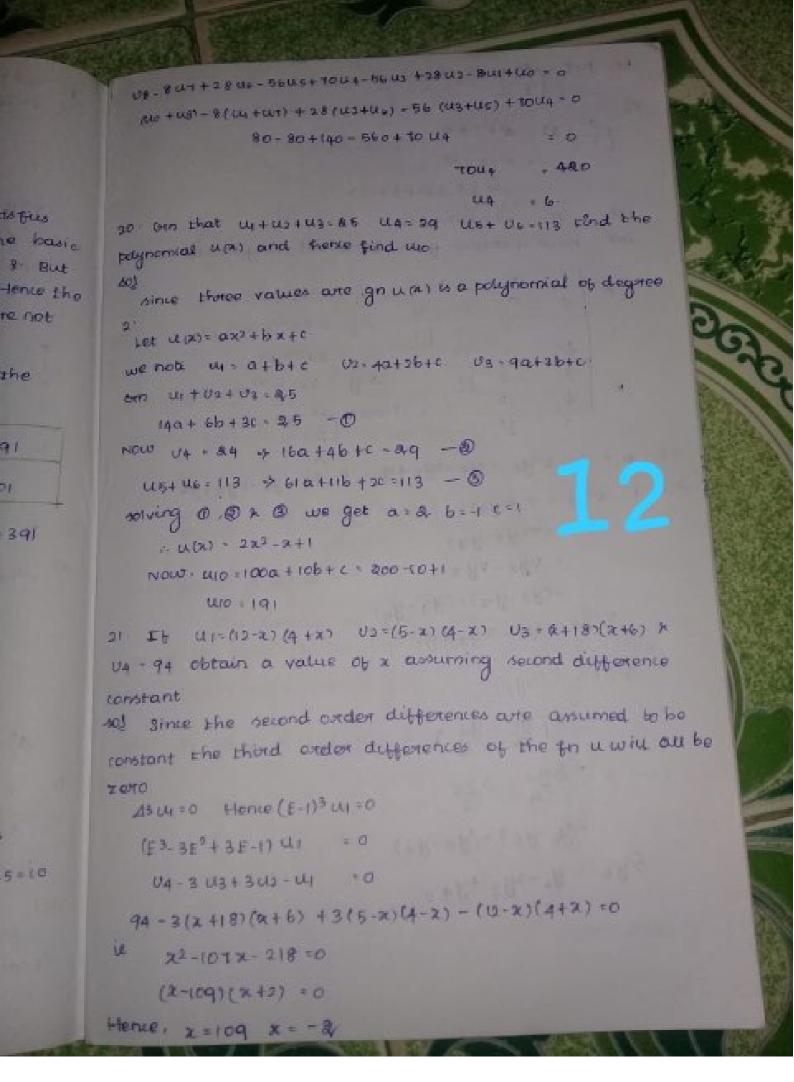


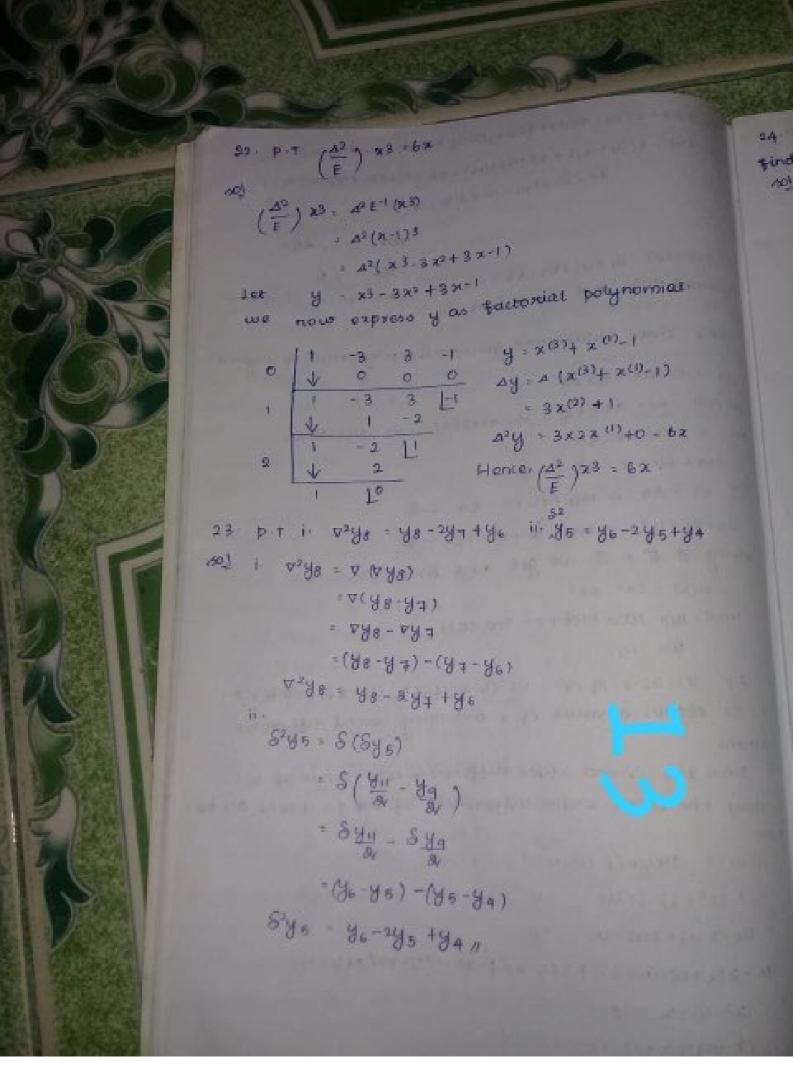


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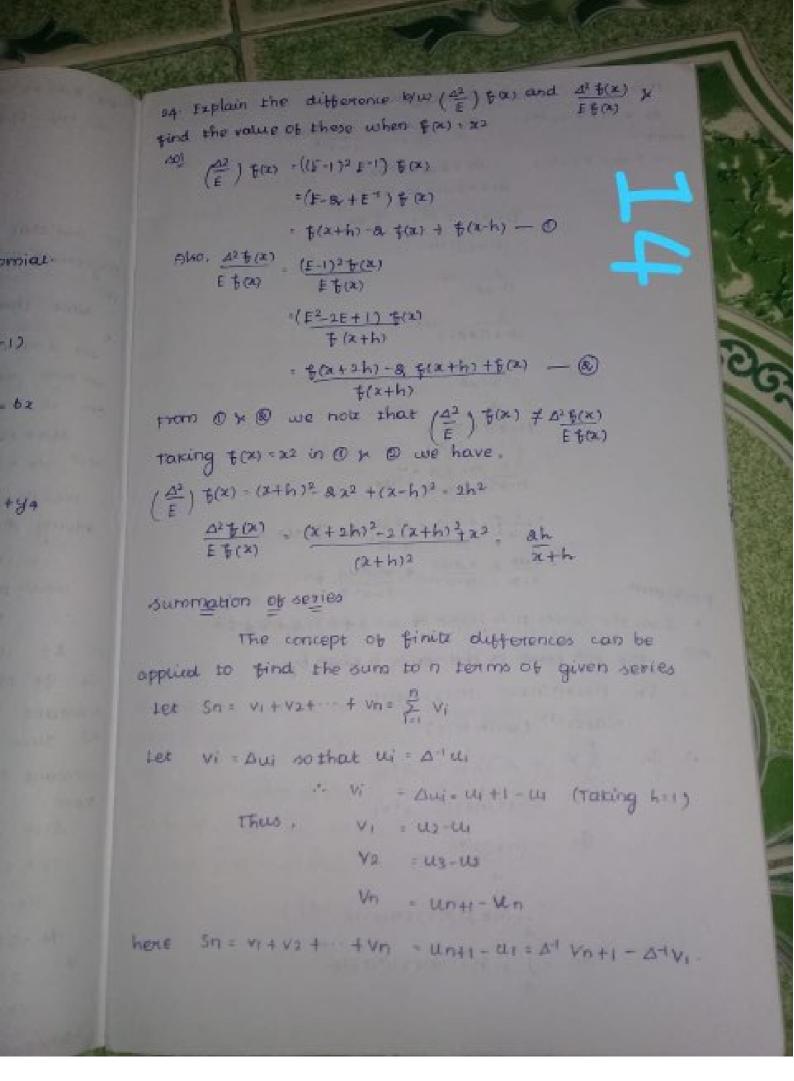


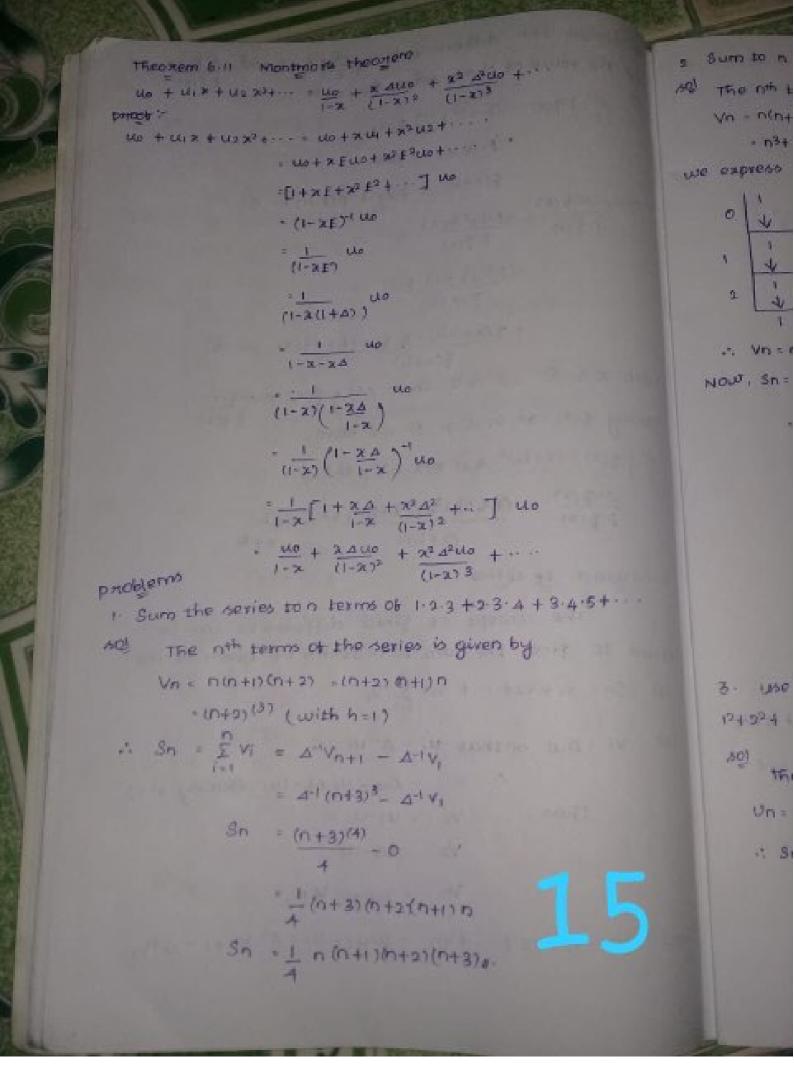






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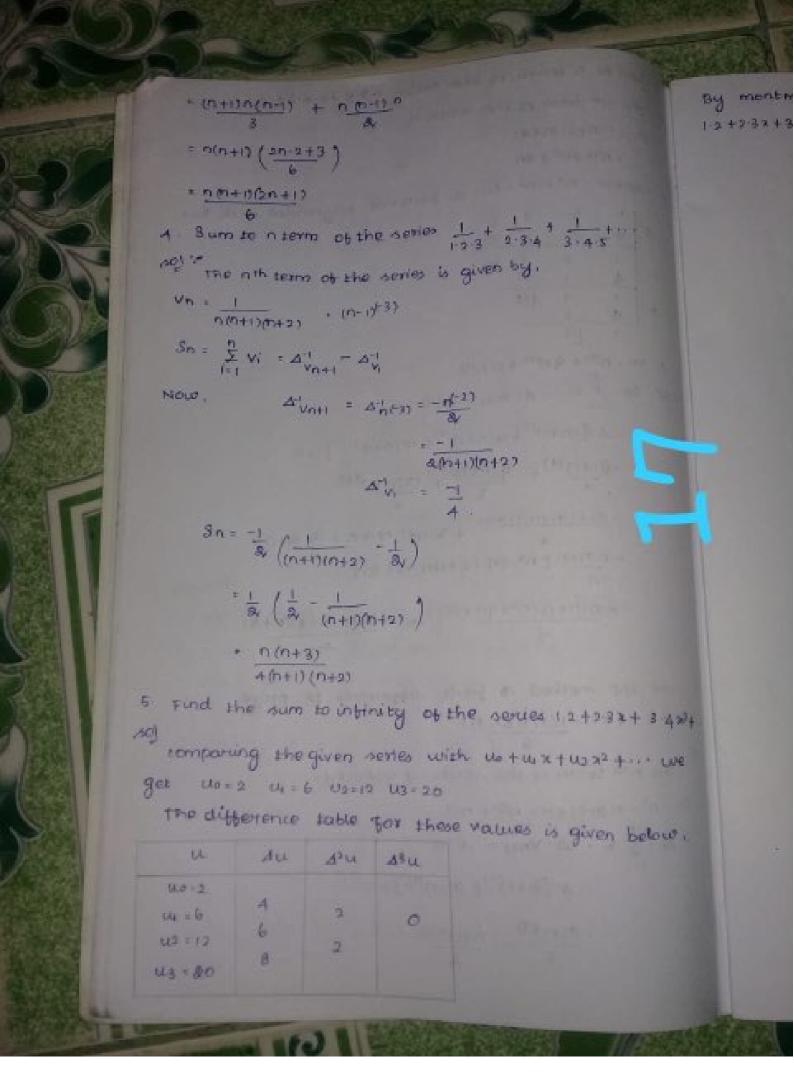


```
2 Sum to n terms of the series 1-3-5 +2-4-6+ ...
  The nt term of the series is
      Vn = n(n+2)(n+4)
          · n3+6n2+8n
  we express n3+6n2+8n as factorial polynomial with h-1
     0 0 0 0 0

1 6 8 10

1 7 115

2 7 2
    .. Vn = (3) + q (3) + (5 n(1)
  NOW , Sn = 2 VI + A-1 Vn+1 - A-1 VI
           - A-1[(n+1)(3) + q(n+1)(3)+ 15(n+1)(1) ] =0
           = (n+1)(+) + 9(n+1)(3) + 15(n+1)(2)
           = (n+1)n (n-1)(n-2) + 3 (n+1)n(n-1) + 16 (n+1) n
          · nm+1) [ n2-2n+2+12n-12+30]
           = \frac{n(n+1)(n^2+9n+20)}{4} \rightarrow \frac{n(n+1)(n+4)(n+5)}{4}
3. use the method of finite differences to prove
12+22+ + +n2 = n(n+12n+1)
    the nth term of the series is given by,
 Un = n2 = n (n-1)+n = n(2)+n(1)
 : 30 = 5 W - A- VO+1 - 5-1V,
               = A-1[m+152)+ (m+1)"19 -0
               \frac{(n+1)(3)}{3} - \frac{(n+1)(2)}{3}
```



**Scanned with CamScanner** 

