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Calculus

Calculus 2







discreet math







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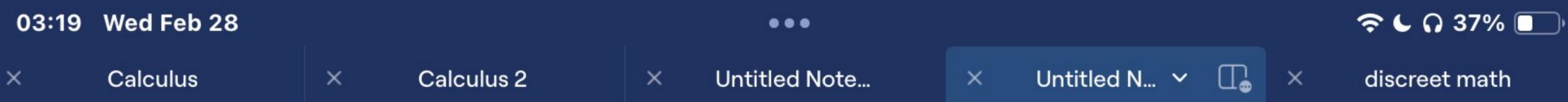




Suppose n is an integer, then n=3q, h= 39+1 or n=39+2 where 9 62 by the quotient - reminder-theorem

Couse 1) Let n=3q, then n+1=3q+1. thus n(n+1) = 39 (39+1) - 992 + 39 -3(3q2+q) Let $k=3g^2+g$, h(n+1)=3kThen

Care2) Let n=39+1, thenn+1=39+2 thus n(n+1)=(39+1)(39+2) = 992+69 +39 +2 = 3 (3 g 2+ 2g+g)+2 Let k= 392+29+9, Thereform (n+1)=3k+2



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Case 3 Let n=39+2, then n+1=39+3

thus. n(n+1) = (39+2) (39+3)

2992+99+69+6

23(392+39+29+2)

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Let $k = 3q^2 + 3q + 2q + 2$, which is an integer, therefore, n(n+1) = 3k

Hence, in any case, the product of any two consectative intergets has the form 3k or 3kt2 03:19 Wed Feb 28

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> Suppose m is an integer, then m=39, onning+1 or m=39+2 Where 9 = 2 by the austient - reminder - theorem

Case 1) Let m= 39

 $pq^2 = (3q)^2$ then = 992 = 3(392)

Let L=39², which is an integer, therefore m²=3k

Case 2) Let m=39+1 then m2-(3g+1)2 = 992+69+1 $= 3(3q^2+2q)+1$ Let k=3942q, which is an integer,
therefore m2=3k+1

