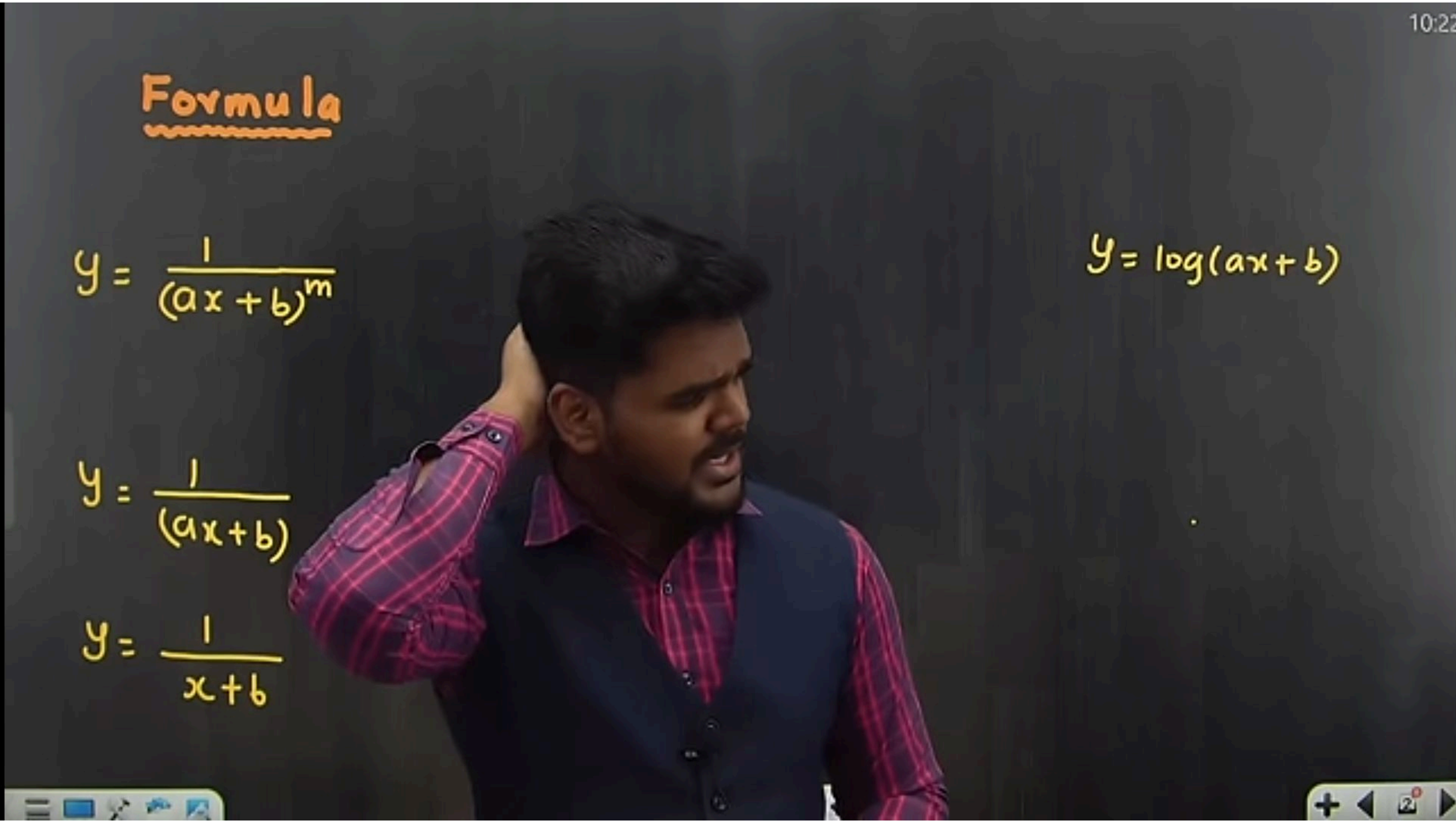

10:22
Formula
$y = \frac{1}{(ax+b)^m}$
$y = \log(ax+b)$
$y = \frac{1}{(ax+b)}$
$y = \frac{1}{x+b}$

Formula

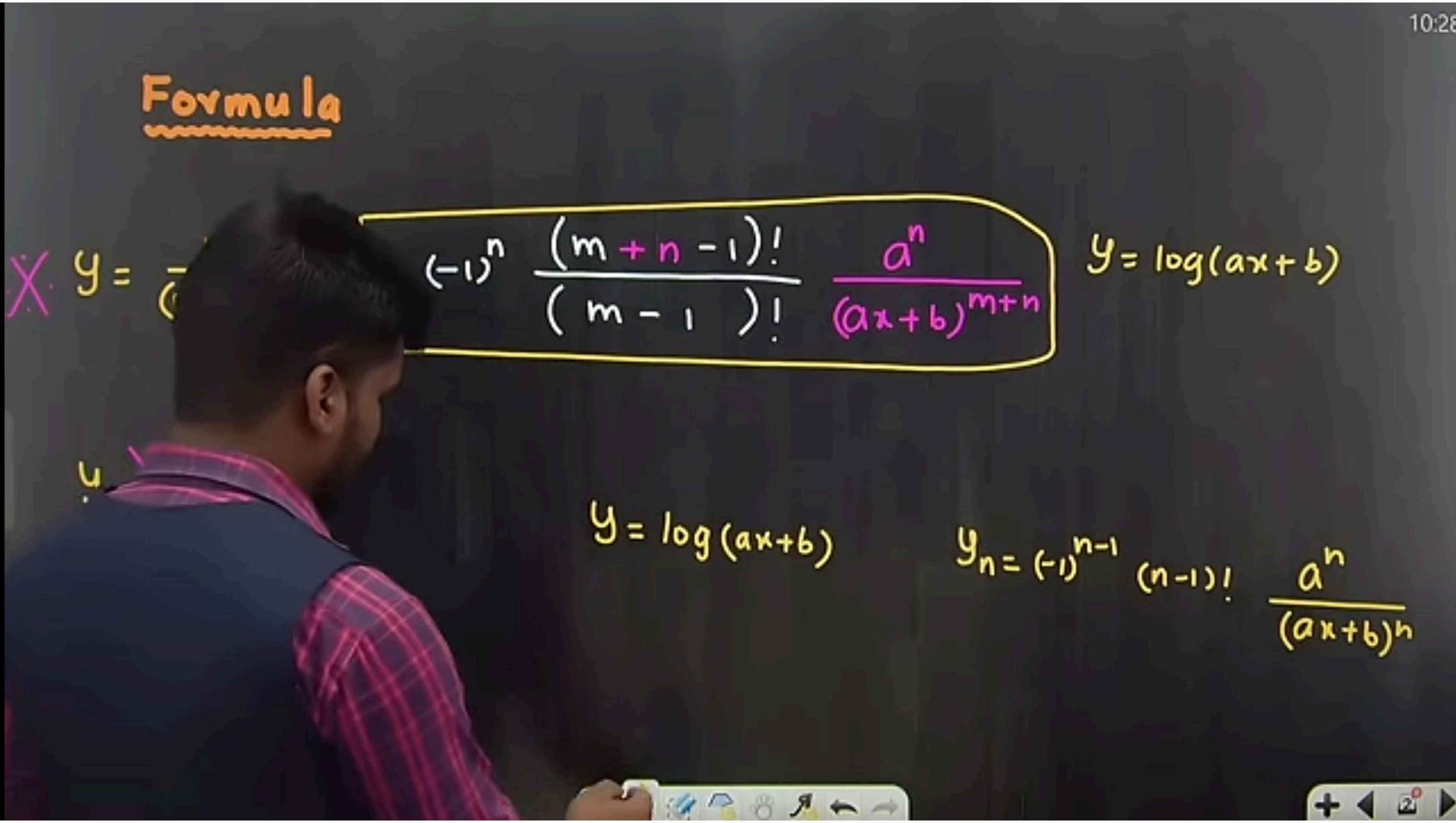
$= \frac{1}{(ax+b)^m}$

$$\boxed{y_n = (-1)^n \frac{(m+n-1)!}{(m-1)!} \frac{a^n}{(ax+b)^{m+n}}}$$

$y = \log(ax+b)$

$\cancel{y = \frac{1}{(ax+b)}}$

$y =$


10:28
Formula
$(-1)^n \frac{(m+n-1)!}{(m-1)!} \frac{a^n}{(ax+b)^{m+n}}$
$y = \log(ax+b)$
$y = \log(ax+b)$
$y_n = (-1)^{n-1} (n-1)! \frac{a^n}{(ax+b)^n}$

$$y = a^{mx} \qquad \boxed{y_n = m^n a^{mx} (\log a)^n}$$

$$y = e^{mx} \qquad \boxed{y_n = m^n e^{mx}}$$

$$y = e^{ax}\cos(bx+c)$$

$$y_n = r^n e^{ax}\cos(bx+c+n\phi)$$

$$y = \sin(ax+b) \qquad \boxed{y_n = a^n \sin\left(ax+b+\frac{n\pi}{2}\right)}$$

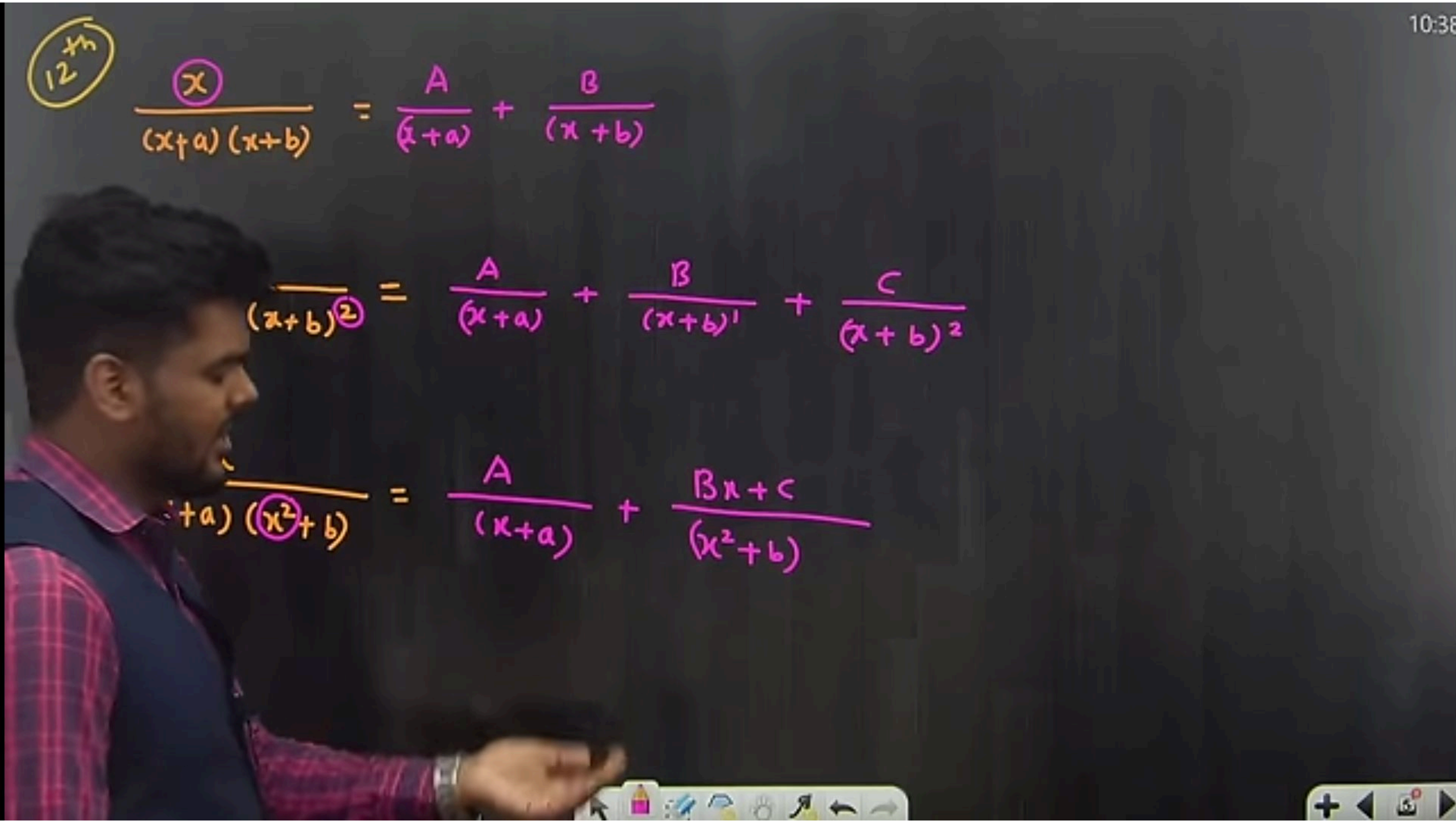
$$y = \cos(ax+b)$$

$$\boxed{y_n = a^n \cos\left(ax+b+\frac{n\pi}{2}\right)}$$

$$y = e^{ax}\sin(bx+c)$$

$$y_n = r^n e^{ax}\sin(bx+c+n\phi)$$

$$r = \sqrt{a^2+b^2} \qquad \phi = \tan^{-1}\left(\frac{b}{a}\right)$$


12th
x / (x+a)(x+b) = A/(x+a) + B/(x+b)
(x+b)2 = A/(x+a) + B/(x+b)1 + C/(x+b)2
+a) (x2+b) = A/(x+a) + (Bx+c)/(x2+b)
10:38

10:38

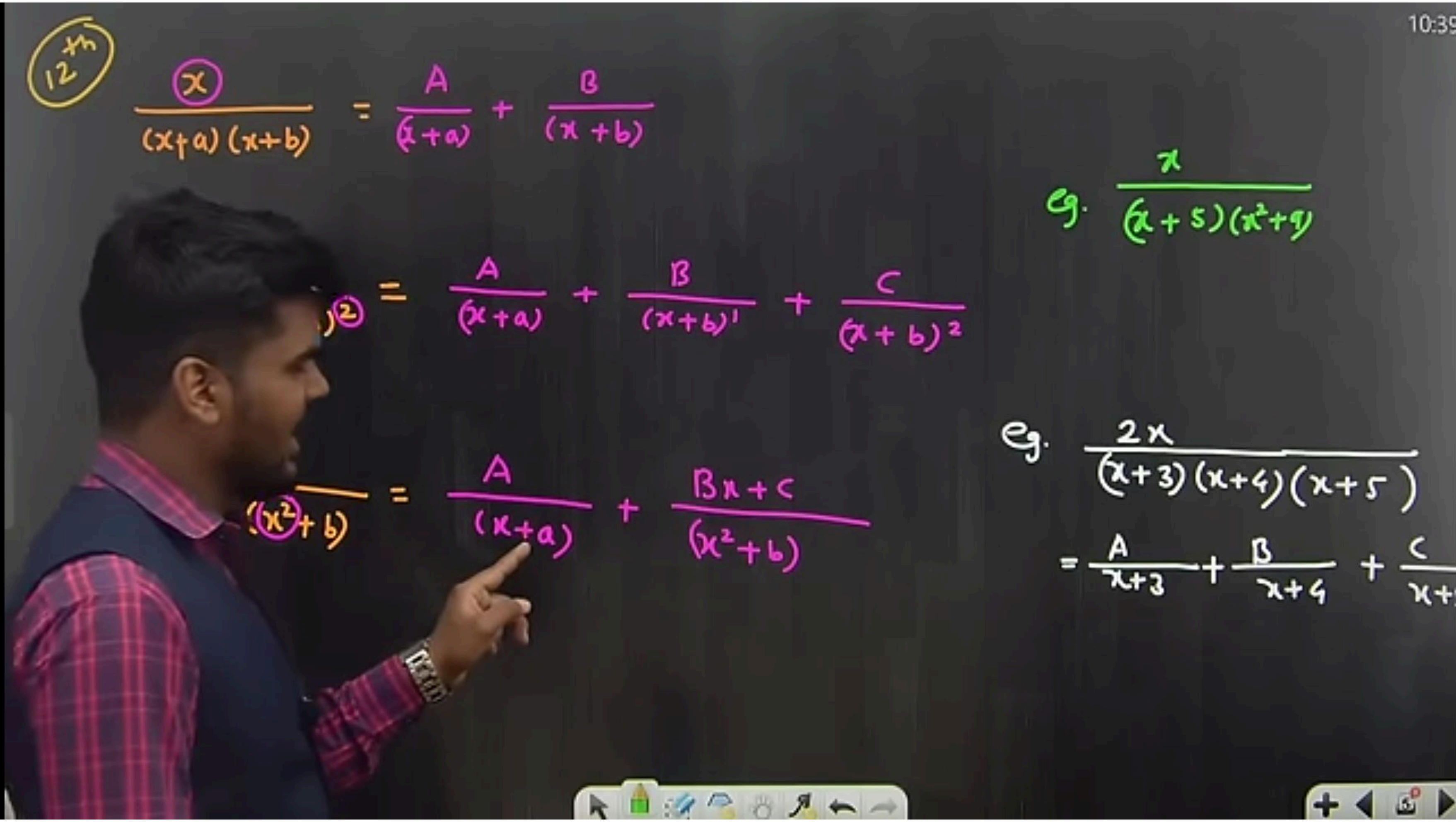
12^{th}

$$\frac{x}{(x+a)(x+b)} = \frac{A}{(x+a)} + \frac{B}{(x+b)}$$

$$\frac{x}{(x+a)(x+b)^2} = \frac{A}{(x+a)} + \ldots \; +b)^2$$

$$\frac{x}{(x+a)(x^2+b)} = \frac{A}{(x \ldots}$$

Screenshot saved


10:39
12th
$\frac{x}{(x+a)(x+b)} = \frac{A}{(x+a)} + \frac{B}{(x+b)}$
$)^2 = \frac{A}{(x+a)} + \frac{B}{(x+b)^1} + \frac{C}{(x+b)^2}$
$(x^2+b) = \frac{A}{(x+a)} + \frac{Bx+C}{(x^2+b)}$
eg. $\frac{x}{(x+5)(x^2+9)}$
eg. $\frac{2x}{(x+3)(x+4)(x+5)}$
$= \frac{A}{x+3} + \frac{B}{x+4} + \frac{C}{x+}$

Find n^{th} derivative of $\frac{2}{(x-1)(x-2)(x-3)}$

$$y = \frac{2}{(x-1)(x-2)(x-3)} = \frac{A}{\boxed{(x-1)}} + \frac{B}{(x-2)} + \frac{C}{(x-3)}$$

$$\frac{2}{(x-1)(x-2)(x-3)} = \frac{A(x-2)(x-3) + B(x-1)(x-3) + C(x-1)(x-2)}{(x-1)(x-2)(x-3)}$$

$$2 = A(x-2)(x-3) + B(x-1)(x-3) + C(x-1)(x-2)$$

put $x=2$

$2 = B(1)(-1)$

$2 = B(-1)$

$\boxed{-2 = B}$

$$2 = A(x-2)(x-3) + B(x-1)(x-3) + C(x-1)(x-2)$$

put $x=2$

$2 = B(1)(-1)$

$2 = B(-1)$

$\boxed{-2 = B}$

put $x=3$

$2 = C(2)(1)$

$2 = C(2)$

$\frac{2}{2} = C$

$\boxed{1 = C}$

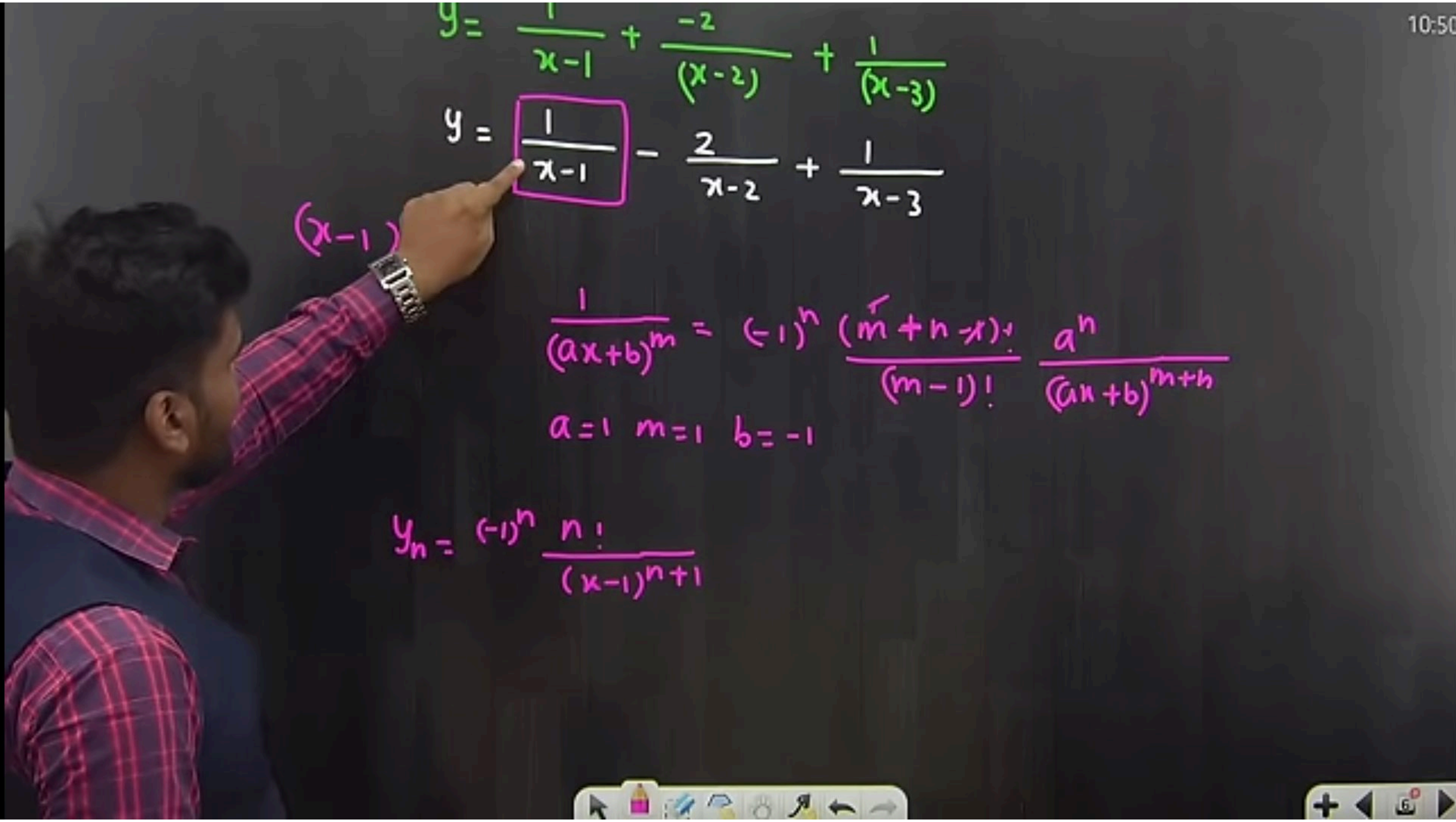
put $x=1$

$2 = A(-1)(-2)$

$2 = A(2)$

$\boxed{1 = A}$

$$y = \frac{1}{x-1} + \frac{-2}{(x-2)} + \frac{1}{(x-3)}$$


10:50
$y = \frac{1}{x-1} + \frac{-2}{(x-2)} + \frac{1}{(x-3)}$
$y = \boxed{\frac{1}{x-1}} - \frac{2}{x-2} + \frac{1}{x-3}$
$(x-1)$
$\frac{1}{(ax+b)^m} = (-1)^n \frac{(m+n-1)!}{(m-1)!} \frac{a^n}{(ax+b)^{m+n}}$
$a=1 \quad m=1 \quad b=-1$
$y_n = (-1)^n \frac{n!}{(x-1)^{n+1}}$

$$y = \boxed{\frac{1}{x-1}} - \frac{2}{x-2} + \frac{1}{x-3}$$

$(x-1)'$

$$\frac{1}{(ax+b)^m} = (-1)^n \frac{(m+n-1)!}{(m-1)!} \frac{a^n}{(ax+b)^{m+n}}$$

$a=1 \quad m=1$

$$y_n = \frac{(-1)^n n!}{(x-1)^{n+1}} - 2\frac{(-1)^n n!}{(x-2)^{n+1}} + \frac{(-1)^n n!}{(x-3)^{n+1}}$$

$$y_n = (-1)^n n! \left[\frac{1}{(x-1)^{n+1}} - \frac{2}{(x-2)^{n+1}} + \frac{1}{(x-3)^{n+1}}\right]$$

2) $y = \dfrac{x^2+4}{(x-1)^2(2x+3)}$ find $y_n = ?$

10:57

2) $y = \dfrac{x^2+4}{(x-1)^2(2x+3)}$ find $y_n = ?$

let $y = \dfrac{x^2+4}{\cdots(2x+3)} = \dfrac{A}{(x-1)^1} + \dfrac{B}{(x-1)^2} + \dfrac{C}{(2x+3)}$

$\dfrac{\cdots}{\cdots x+3)} = \dfrac{A(x-1)(2x+3) + B(2x+3) + C(x-1)^2}{\cancel{(x-1)^2(2x+3)}}$

$\cdots +4 = A(x-1)(2x+3) + B(2x+3) + C(x-1)^2$

2) $y = \frac{x^2+4}{(x-1)^2(2x+3)}$ find $y_n = ?$

let $y = \frac{x^2+4}{(x-1)^2(2x+3)} = \frac{A}{(x-1)^1} + \frac{B}{(x-1)^2} + \frac{C}{(2x+3)}$

$$\frac{x^2+4}{\cancel{(x-1)^2(2x+3)}} = \frac{A(x-1) \ldots (2x+3) + C(x-1)^2}{(x \ldots 3)}$$

$$x^2+4 = A(x-1)(\ldots 2x+3) + C(x-1)^2$$

$$\frac{x^2+4}{\cancel{(x-1)^2(2x+3)}} = \frac{A(x-1)(2x+3)+B(2x+3)+C(x-1)^2}{\cancel{(x-1)^2(2x+3)}}$$

$$\ldots 4 = A(x-1)(2x+3)+B(2x+3)+C(x-1)^2$$

put $x=1$

$\ldots(2+3)$

$= B(\cancel{5})$

$\boxed{\ldots = B}$

$2x+3=0$

$2x=-3$

$\boxed{x=\frac{-3}{2}}$

$\frac{9}{4}+4 = C\left(\frac{-3}{2}-1\right)^2$

$\cancel{\frac{25}{4}} = C\left(\cancel{\frac{25}{4}}\right)$

$\boxed{1=C}$

put $x=0$

$4 = A(-1)(3)+1(3)+1(1)$

$4 = -3A+3+1$

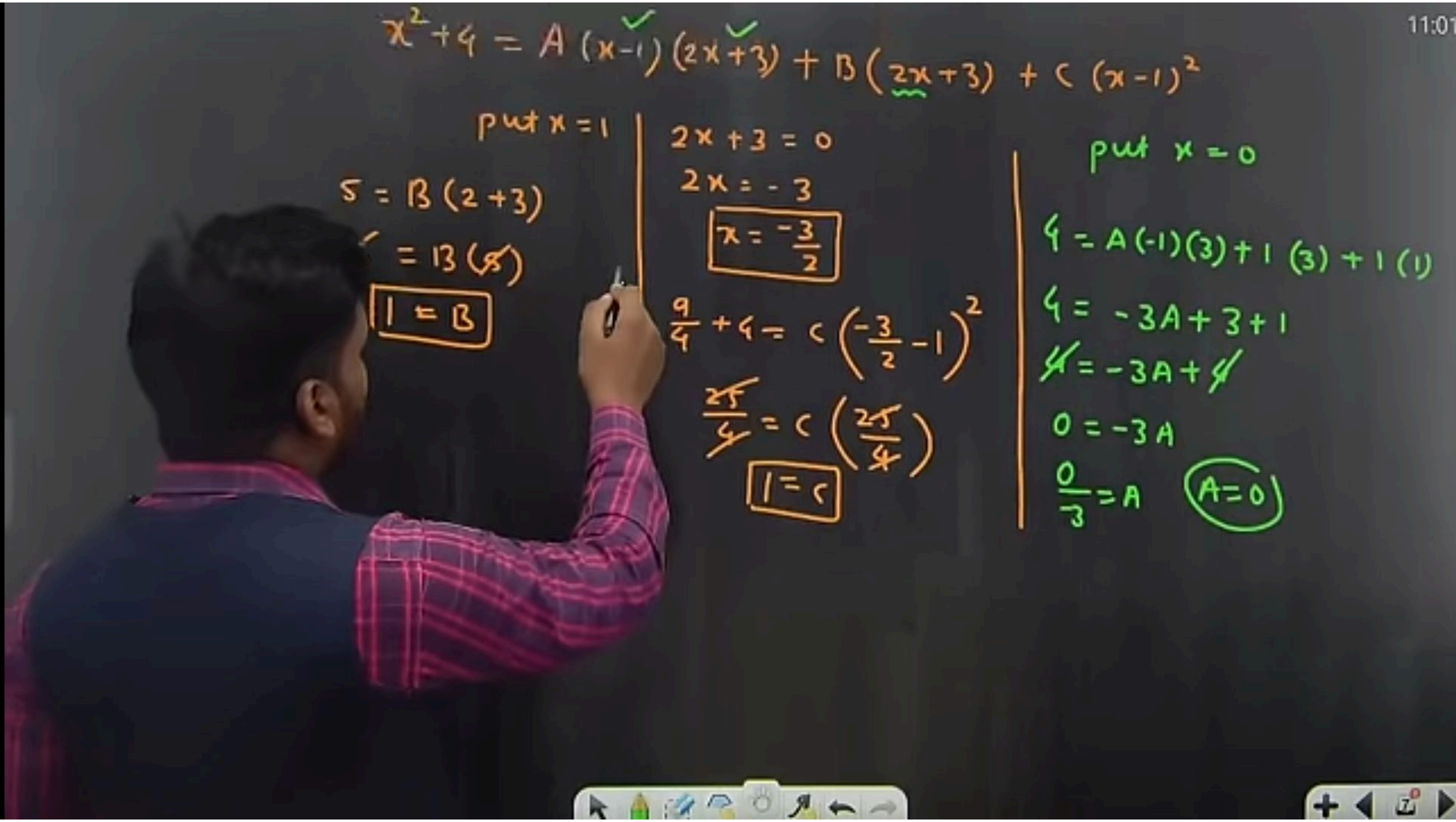
$\cancel{4} = -3A+\cancel{4}$

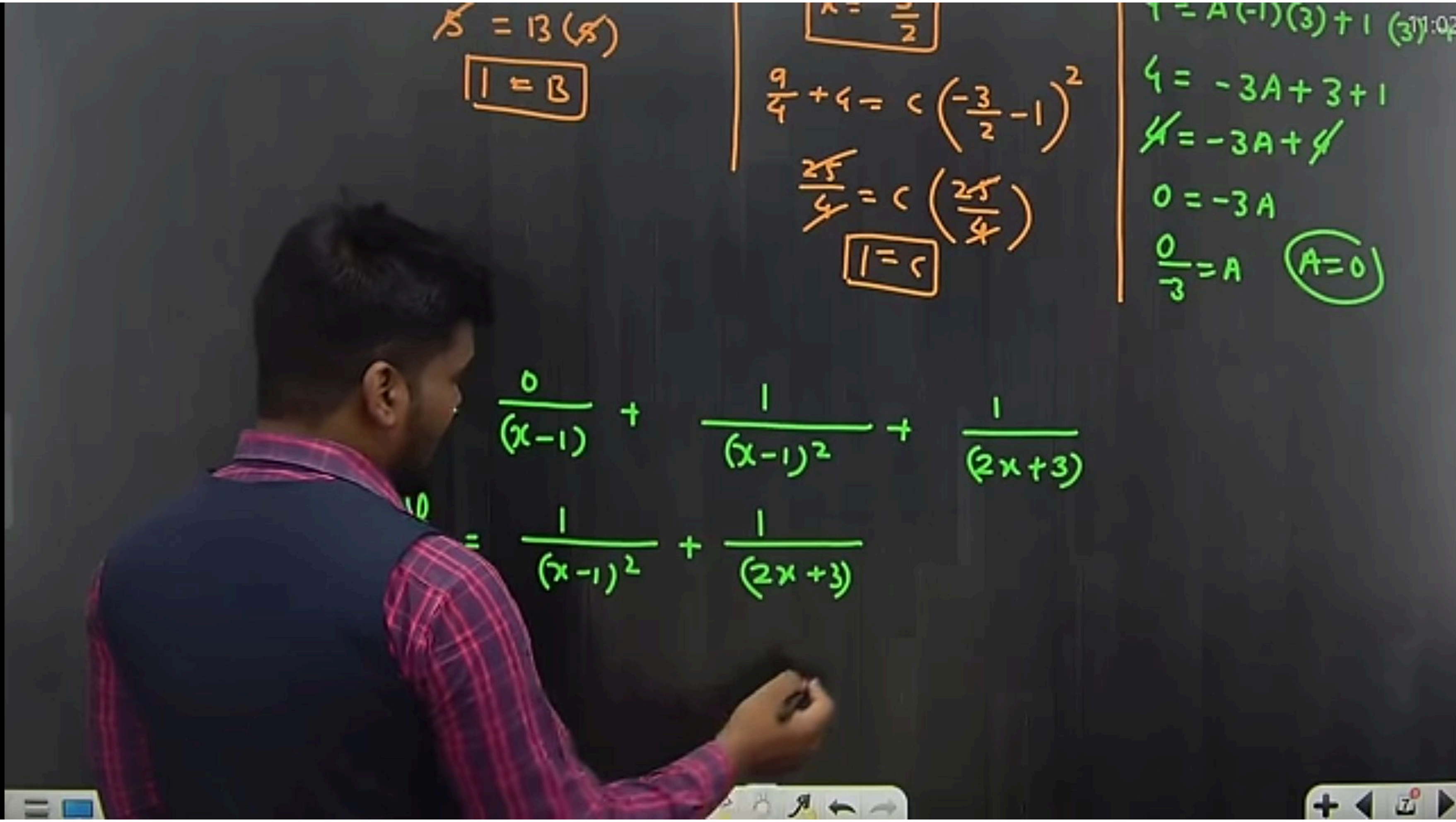
$0=-3A$

$\frac{0}{-3}=A$

$A=0$

11:01


x² + 4 = A (x-1) (2x+3) + B (2x+3) + C (x-1)²
put x = 1
5 = B (2+3)
= B (5)
1 = B
2x + 3 = 0
2x = -3
x = -3/2
9/4 + 4 = C (-3/2 - 1)²
25/4 = C (25/4)
1 = C
put x = 0
4 = A (-1)(3) + 1 (3) + 1 (1)
4 = -3A + 3 + 1
4 = -3A + 4
0 = -3A
0/3 = A
A = 0
11:01


$\cancel{5} = B(\cancel{5})$
$\boxed{1 = B}$
$\frac{9}{4}+4 = C\left(-\frac{3}{2}-1\right)^2$
$\frac{\cancel{25}}{\cancel{4}} = C\left(\frac{\cancel{25}}{\cancel{4}}\right)$
$\boxed{1 = C}$
$4 = -3A+3+1$
$\cancel{4} = -3A+\cancel{4}$
$0 = -3A$
$\frac{0}{-3} = A$
$A = 0$
$\frac{0}{(x-1)}+\frac{1}{(x-1)^2}+\frac{1}{(2x+3)}$
$= \frac{1}{(x-1)^2}+\frac{1}{(2x+3)}$

11:04

$$\frac{\;}{(x-1)} + \frac{\;}{(x-1)^2} + \frac{1}{(2x+3)}$$

$$y = \boxed{\frac{1}{(x-1)^2}} + \frac{1}{(2x+3)}$$

$$\frac{1}{(ax+b)^m} = (-1 \quad \frac{\;m+n-1)!}{(m-1)!} \; \frac{a^n}{(ax+b)^{m+n}}$$

$a = 1 \quad m$

11:04

$$y = \boxed{\frac{1}{(x-1)^2}} + \frac{1}{(2x+3)}$$

$$\frac{1}{(ax+b)^m} = (-1)^n \frac{(\overset{2}{m}+n-1)!}{(m-1)!} \frac{a^n}{(ax+b)^{m+n}}$$

$$a = 1 \quad m = 2$$

$$= (-1)^n \frac{(n+1)!}{1} \frac{1^n}{(x-1)^{n+2}}$$

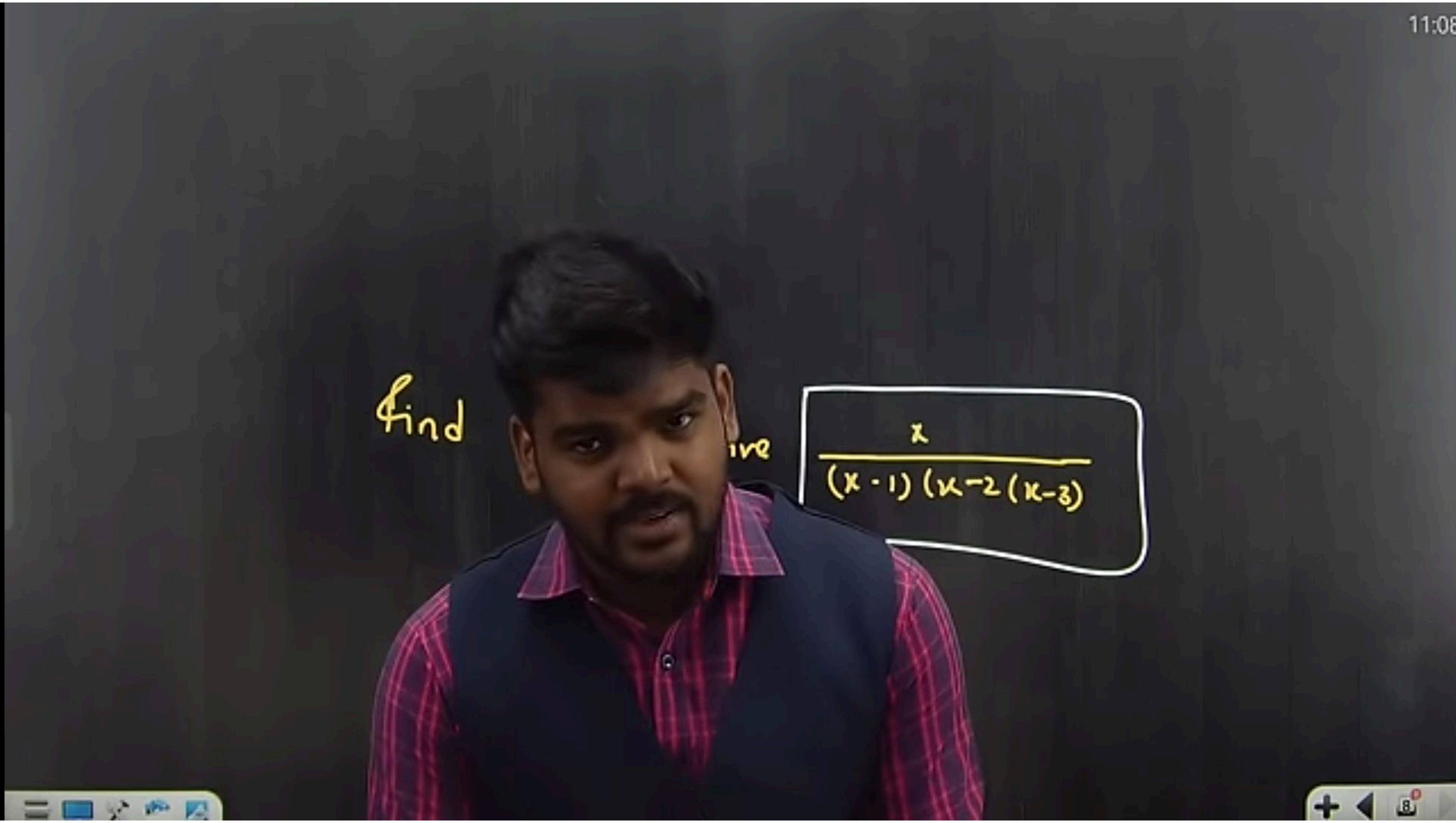
11:06

$$y = \boxed{\frac{1}{(x-1)^2}} + \frac{1}{(2x+3)}$$

$$\frac{1}{(ax+b)^m} = (-1)^n \frac{(\overset{2}{m}+n-1)!}{(m-1)!} \frac{a^n}{(ax+b)^{m+n}}$$

$a = 2 \quad m = 1$

$$y_n = (-1)^n \frac{(n+1)!}{1} \frac{1^n}{(x-1)^{n+2}} + \frac{(-1)^n n!\, 2^n}{(2x+3)^{n+1}}$$


11:08
find
ive
x / (x-1) (x-2 (x-3)

09:50

Diff → sin sin

Same cos cos

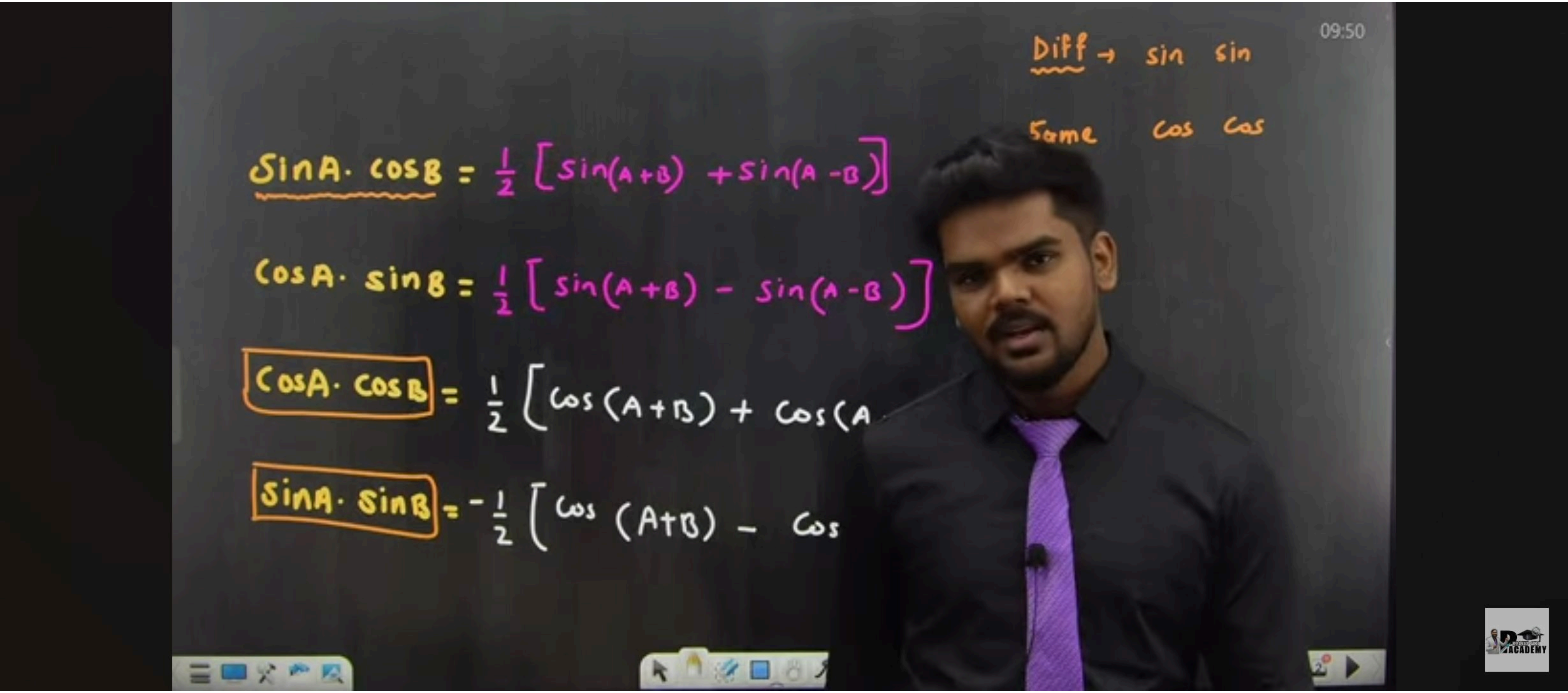
$$\sin A \cdot \cos B = \frac{1}{2}\left[\sin(A+B) + \sin(A-B)\right]$$

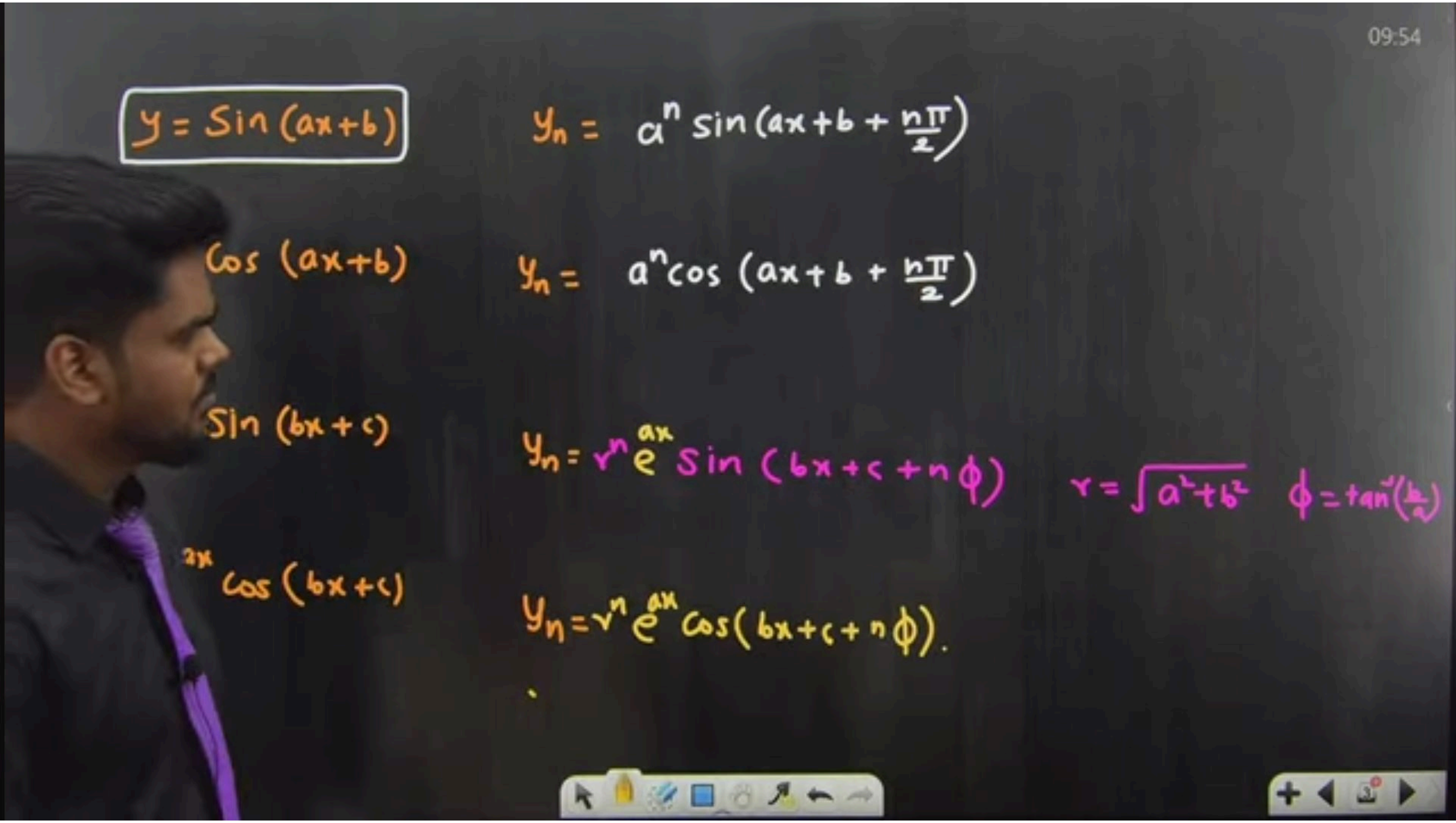
$$A \cdot \sin B = \frac{1}{2}\left[\sin(A+B) - \sin(A-B)\right]$$

$$\boxed{\text{os}A \cdot \cos B} = \frac{1}{2}\left[\cos(A+B) + \cos(A-B)\right]$$

$$\boxed{\sin B} = \frac{1}{2}\left[\cos(A+B) - \cos(A-B)\right]$$

ACADEMY


09:50
Diff → sin sin
Same cos cos
$\sin A \cdot \cos B = \frac{1}{2}[\sin(A+B) + \sin(A-B)]$
$\cos A \cdot \sin B = \frac{1}{2}[\sin(A+B) - \sin(A-B)]$
$\boxed{\cos A \cdot \cos B} = \frac{1}{2}[\cos(A+B) + \cos(A$
$\boxed{\sin A \cdot \sin B} = -\frac{1}{2}[\cos(A+B) - \cos$
ACADEMY


09:54
$\boxed{y = \sin(ax+b)}$
$y_n = a^n \sin\left(ax+b+\frac{n\pi}{2}\right)$
$\cos(ax+b)$
$y_n = a^n \cos\left(ax+b+\frac{n\pi}{2}\right)$
$\sin(bx+c)$
$y_n = r^n e^{ax} \sin(bx+c+n\phi)$
$r = \sqrt{a^2+b^2}$
$\phi = \tan^{-1}\left(\frac{b}{a}\right)$
$^{ax}\cos(bx+c)$
$y_n = r^n e^{ax} \cos(bx+c+n\phi).$
ACADEMY

09:54

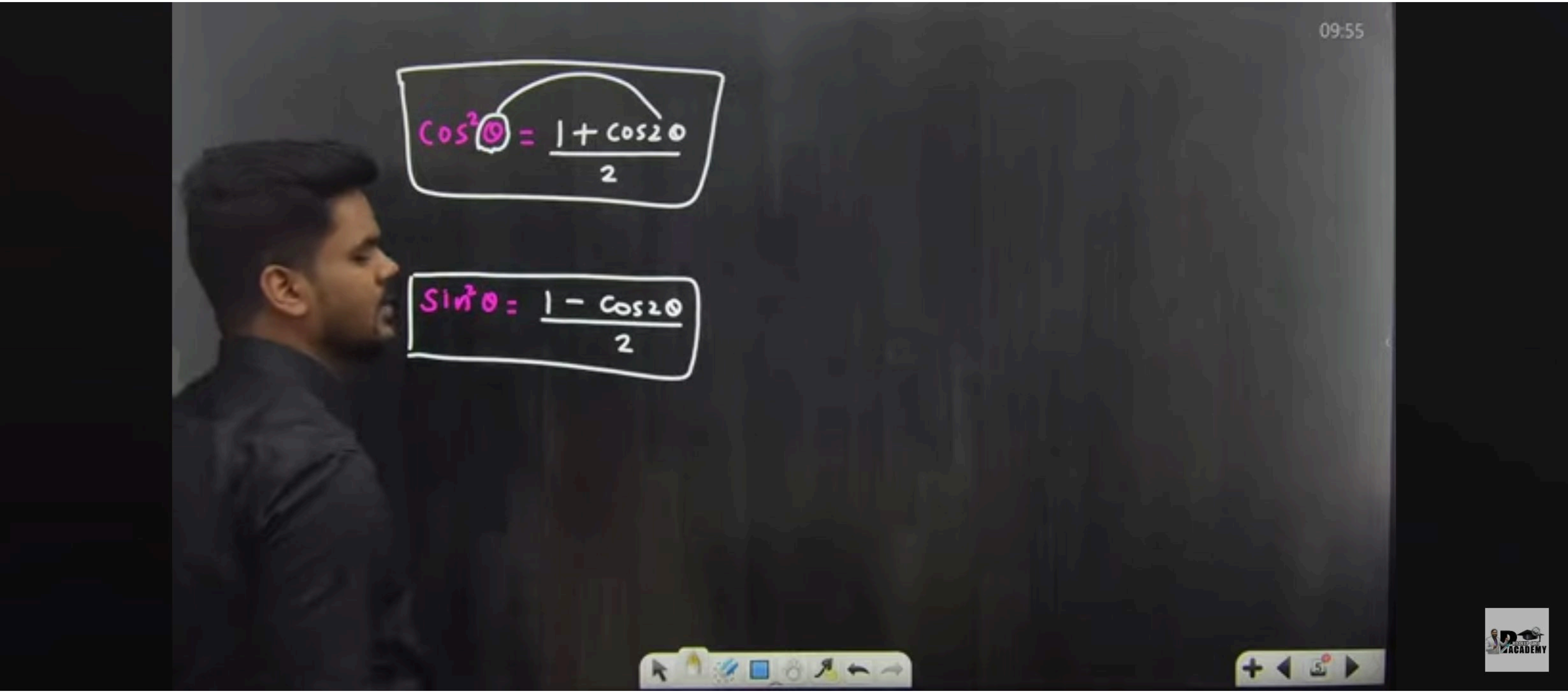
$\boxed{y = \sin(ax+b)}$ $\quad y_n = a^n \sin\left(ax+b+\frac{n\pi}{2}\right)$

$y = \cos(ax+b)$ $\quad y_n = a \ldots b+\frac{n\pi}{2}\big)$

$y = e^{ax}\sin(bx+c)$ $\quad y_n = r^n \ldots x+c+n\phi\big)$ $\quad r = \sqrt{a^2+b^2}$ $\quad \phi = \tan^{-1}\left(\frac{b}{a}\right)$

$y = e^{ax}\cos(bx+c)$ $\quad \ldots \phi)$.

ACADEMY


09:55
$\cos^2\theta = \frac{1+\cos 2\theta}{2}$
$\sin^2\theta = \frac{1-\cos 2\theta}{2}$
ACADEMY

Always write the term with bigger angle First(to apply the correct formula)

09:58

Find n^{th} derivative of $y = \sin 2x \cdot \cos 6x$.

$$y = \sin 2x \cdot \cos 6x$$

$$y = \cos 6x \cdot \sin 2x$$

$$\cos A \cdot \sin B = \frac{1}{2}\left[\sin(A+B) - \sin(A-B)\right]$$

$$y = \frac{1}{2}\left[\sin 8x - \sin 4x\right]$$

$$y_n = \frac{1}{2}\left[8^n \sin\left(8x + \frac{n\pi}{2}\right) - \right.$$

$$\sin(ax+b) = a^n \sin\left(ax + \cancel{b} + \frac{n\pi}{2}\right)$$

$$\sin(8x) = 8^n \sin\left(8x + \frac{n\pi}{2}\right)$$

ACADEMY

09:59

Find n^{th} derivative of $y = \sin 2x \cdot \cos 6x$.

$y = \sin 2x \cdot \cos 6x$

$y =$ … $2x$

$\cos$ … $[\sin(A+B) - \sin(A-B)]$

$y =$ … $- \sin 4x]$

… $(8x + \frac{n\pi}{2}) - 4^n \sin(4x + \frac{n\pi}{2})]$

ACADEMY

Find n^{th} derivative of $y = \cos x \cdot \cos 2x \cdot \cos 3x$.

$$y = \cos x \cdot \underline{\cos 2x \cdot \cos 3x}$$

$$y = \cos x \cdot \underline{\cos 3x \cdot \cos 2x}$$

$$\cos A \cdot \cos B = \frac{1}{2}\left[\cos(A+B) + \cos(A-B)\right]$$

$$y = \cos x \cdot \frac{1}{2}\left[\cos 5x + \cos x\right]$$

$$y = \frac{1}{2}\left[\cos 5x \cdot \cos x + \cos^2 x\right]$$

$$y = \frac{1}{2}\left[\cos 5x \cdot \cos x + \cos^2 x\right]$$

$$\cos^2\theta = \frac{1+\cos 2\theta}{2}$$

$$y = \frac{1}{2}\cos 5x \cdot \cos x + \frac{1}{2}\boxed{\cos^2 x}$$

$$y = \frac{1}{2}\cdot\frac{1}{2}\left[\cos 6x + \cos 4x\right] + \frac{1}{2}\left(\frac{1+\cos 2x}{2}\right)$$

10:04

10:05

$$y = \frac{1}{4}\left[\cos 6x + \cos 4x\right] + \frac{1}{4}\left(1 + \cos 2x\right)$$

$$y = \frac{1}{4}\left[\cos 6x + \cos 4x + 1 + \cos 2x\right]$$

$$\cos(ax+b) = a^n \cos\left(ax + b + \frac{n\pi}{2}\right)$$

$$y_n = \frac{1}{4}\Big[$$

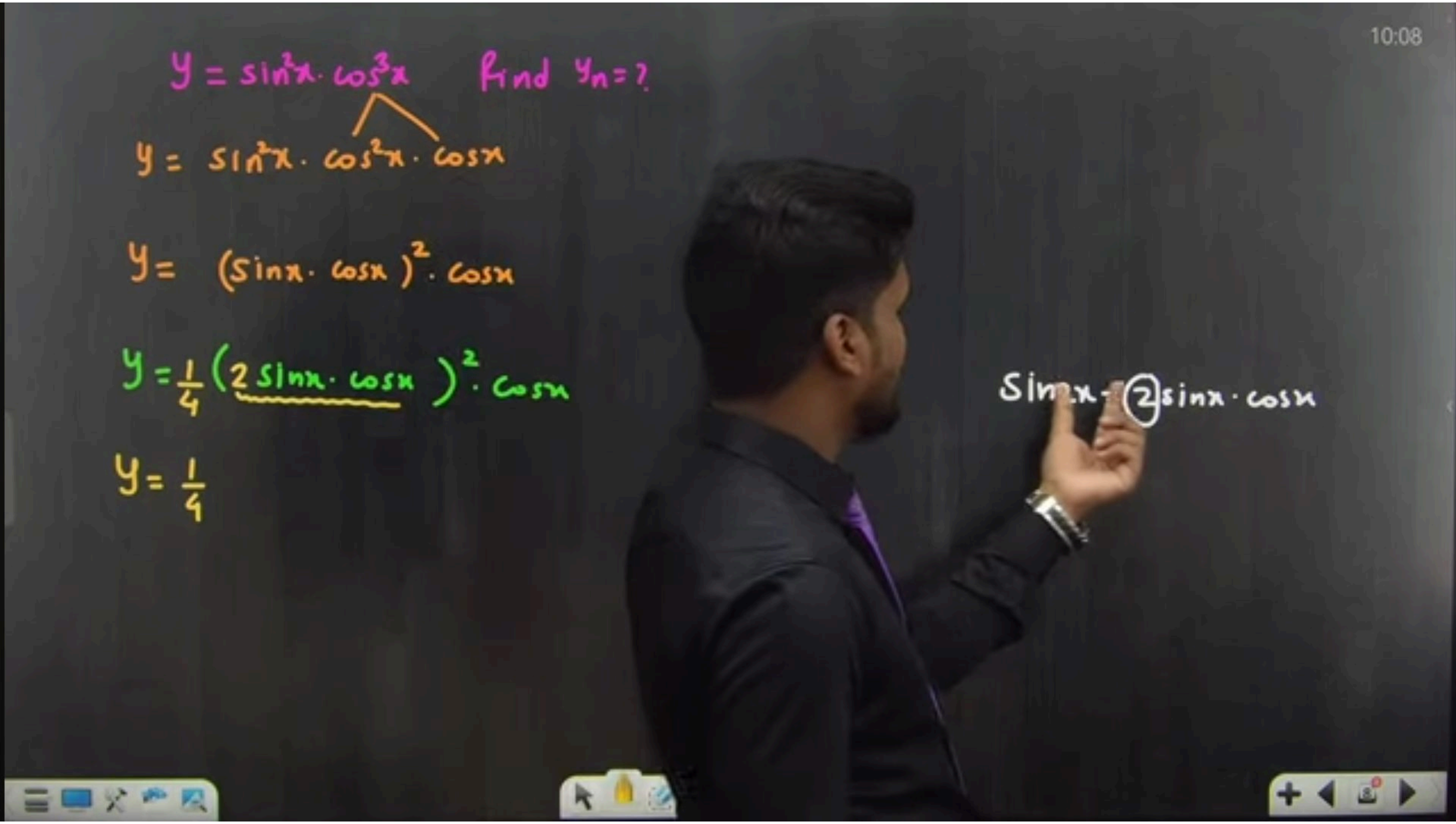
10:06

$$y = \frac{1}{4}\left[\cos 6x + \cos 4x\right] + \frac{1}{4}\left(1 + \cos 2x\right)$$

$$y = \frac{1}{4}\left[\underline{\cos 6x} + \cos 4x + 1 + \cos 2x\right]$$

$$\cos(ax+b) = a^n \cos\left(ax + b + \frac{n\pi}{2}\right)$$

$$y_n = \frac{1}{4}\left[6^n \cos\left(6x + \frac{n\pi}{2}\right) + 4^n \cos\left(4x + \frac{n\pi}{2}\right) + 2^n \cos\left(2x + \frac{n\pi}{2}\right)\right]$$


10:08
$y = \sin^2 x \cdot \cos^3 x$ find $y_n = ?$
$y = \sin^2 x \cdot \cos^2 x \cdot \cos x$
$y = (\sin x \cdot \cos x)^2 \cdot \cos x$
$y = \frac{1}{4}(2\sin x \cdot \cos x)^2 \cdot \cos x$
$y = \frac{1}{4}$
$\sin 2x = 2\sin x \cdot \cos x$

$$y=\frac{1}{4}\left(2\sin x\cdot\cos x\right)\cdot\cos x$$

$$y=\frac{1}{4}\left(\sin 2x\right)^2\cdot\cos x$$

$$y=\frac{1}{4}\boxed{\sin^2 2x}\cos x$$

$$y=\frac{1}{4}\left(\frac{1-\cos 4x}{2}\right)\cdot\cos x$$

$$y=\frac{1}{8}\left(1-\cos 4x\right)\cdot\cos x$$

y

$$\sin 2x=2\sin x\cdot\cos x$$

10:10

$$\sin^2\theta=\frac{1-\cos 2\theta}{2}$$

$$\sin^2 2x=\frac{1-\cos 4x}{2}$$

$$y = \frac{1}{4}\boxed{\sin^2 2x.}\cos x$$

$$\sin^2 2x = \frac{1-\cos 4x}{2}$$

10:11

$$y = \frac{1}{4}\left(\frac{1-\cos 4x}{2}\right).\cos x$$

$$y = \frac{1}{8}\left(1-\cos 4x\right)\cdot\cos x$$

$$y = \frac{1}{8}\left(\cos x - \cos 4x\cdot\cos x\right)$$

$$y = \frac{1}{8}\cos x - \frac{1}{8}\cos 4x\cdot\cos x$$

$$y = \frac{1}{8}\left(1 - \cos 4x\right)\cdot \cos x$$

$$y = \frac{1}{8}\left(\cos x - \cos 4x \cdot \cos x\right)$$

$$y = \frac{1}{8}\cos x - \frac{1}{8}\cos 4x \cos x$$

$$y = \frac{1}{8}\cos x - \frac{1}{8}\cdot\frac{1}{2}\left[\cos 5x + \cos 3x\right]$$

$$y = \frac{1}{8}\cos x - \frac{1}{16}\left[\cos 5x + \cos 3x\right]$$

$$y = \frac{1}{8}\cos x - \frac{1}{8}\cdot\frac{1}{2}\left[\cos 5x + \cos 3x\right]$$

$$y = \frac{1}{8}\cos x - \frac{1}{16}\left[\cos 5x + \cos 3x\right]$$

$$y = \frac{1}{8}\cos x - \frac{1}{16}\cos 5x - \frac{1}{16}\cos 3x$$

$$y_n = \frac{1}{8}1^n\cos\left(x + \frac{n\pi}{2}\right) - \frac{1}{16}5^n\cos\left(5x + \frac{n\pi}{2}\right) - \frac{1}{16}3^n\cos\left(3x + \frac{n\pi}{2}\right)$$

10:16

If $y = e^{ax}\cos^2 x\cdot\sin x$ find y_n

$$y = e^{ax}\cdot\boxed{\cos^2 x}\,\sin x$$

$$y = e^{ax}\cdot\cos x\cdot\underline{\sin x\cdot\cos x}$$

$$y = \frac{1}{2}e^{ax}\cdot\cos x\cdot\boxed{2}\sin x\cdot\cos x$$

$$y = \frac{1}{2}e^{ax}\cdot\cos x\cdot\sin 2x$$

$$y = \frac{1}{2}e^{ax}$$

$$y = \frac{1}{2} e \cdot \cos x \cdot \sin 2x$$

$$y = \frac{1}{2} e^{ax} \sin 2x \cos x$$

$$y = \frac{1}{2} e^{ax} \cdot \frac{1}{2} \left[\sin 3x + \sin x \right]$$

$$y = \frac{1}{4} e^{ax} \left[\sin 3x + \sin x \right]$$

$$y = \frac{1}{4} e^{ax} \sin 3x + \frac{1}{4} e^{ax} \sin x$$

$$y_n = \frac{1}{4} r^n e^{ax} \sin(3x + n\phi) + \frac{1}{4} r^n e^{ax} \sin(x + n\phi)$$

$$y = \frac{1}{2} e^{ax} \cdot \frac{1}{2} \left[\sin 3x + \sin x \right]$$

$$y = \frac{1}{4} e^{ax} \left[\sin 3x + \sin x \right]$$

$$y = \frac{1}{4} \underline{e^{ax} \sin 3x} + \frac{1}{4} e^{ax} \sin x$$

$$y_n = \frac{1}{4} r_1^n e^{ax} \sin(3x + n\phi_1) + \frac{1}{4} r_2^n e^{ax} \sin(x + n\phi_2)$$

r

10:19

$$y = \frac{1}{2}e^{ax} \cdot \frac{1}{2}\left[\sin 3x + \sin x\right]$$

$$y = \frac{1}{4}e^{ax}\left[\sin 3x + \sin x\right]$$

$$y = \frac{1}{4}\underline{e^{ax}\sin 3x} + \frac{1}{4}e^{ax}\sin x$$

$$y_n = \frac{1}{4} r_1^n e^{ax} \sin(3x + n\phi_1) + \frac{1}{4} r_2^n e^{ax} \sin(x + n\phi_2)$$

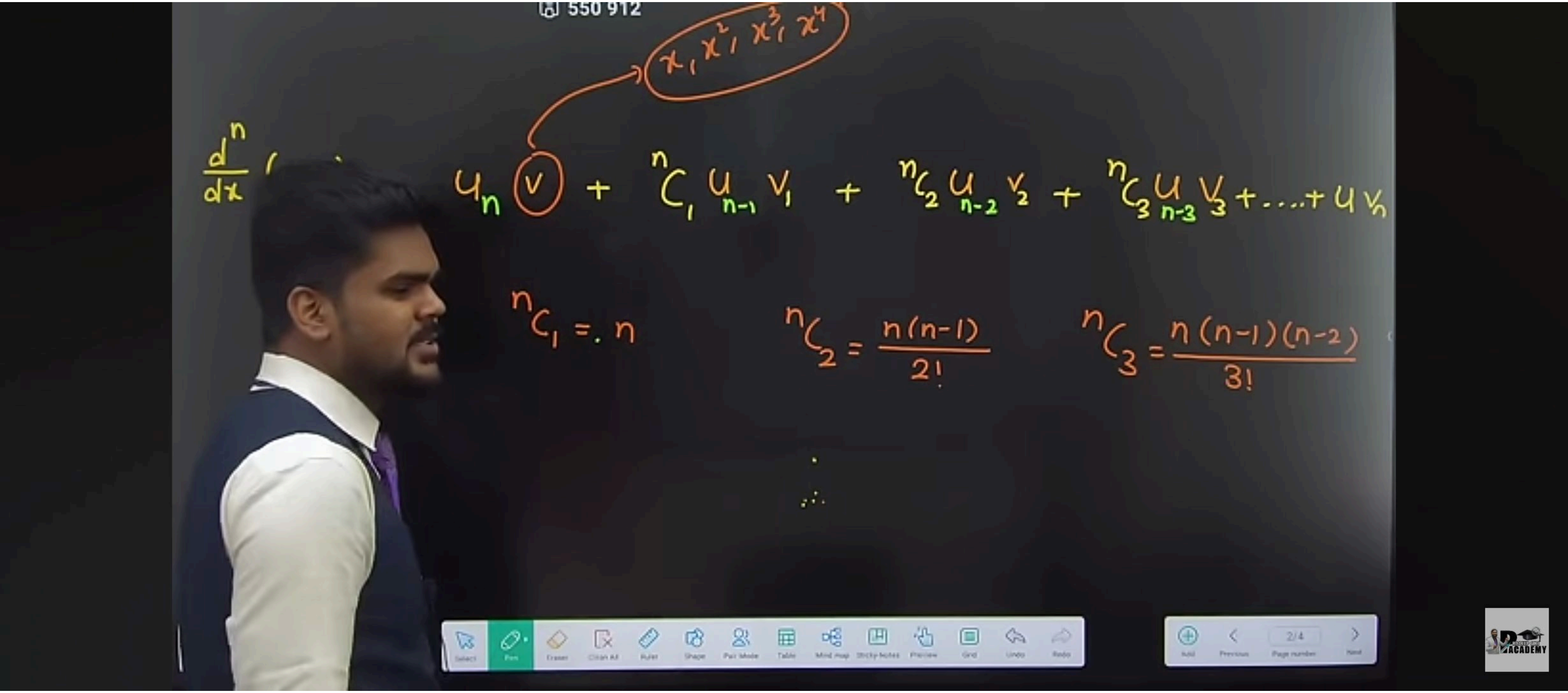
$$r_1 = \sqrt{a^2+b^2} = \sqrt{a^2+9} \qquad r_2 = \sqrt{a^2+1}$$

$$\phi_1 = \tan^{-1}\left(\frac{3}{a}\right) \qquad \phi_2 = \tan^{-1}\left(\frac{1}{a}\right)$$

550 912

$$\frac{d^n}{dx^n}(u \cdot v) = \quad + {}^nC_1 u_{n-1} v_1 + {}^nC_2 u_{n-2} v_2 + {}^nC_3 u_{n-3} v_3 + \ldots + u v_n$$

$$= n \qquad {}^nC_2 = \frac{n(n-1)}{2!} \qquad {}^nC_3 = \frac{n(n-1)(n-2)}{3!}$$


550 912
x, x^2, x^3, x^4
$\frac{d^n}{dx^n}$
$u_n v + {}^nC_1 u_{n-1} v_1 + {}^nC_2 u_{n-2} v_2 + {}^nC_3 u_{n-3} v_3 + \dots + u v_n$
${}^nC_1 = n$
${}^nC_2 = \frac{n(n-1)}{2!}$
${}^nC_3 = \frac{n(n-1)(n-2)}{3!}$
2/4
ACADEMY

550 912

If $y = x^2 \sin x$ then find $y_n = ?$

$V = x^2$

V_1

$u = \sin x$

$$\boxed{u_n = \sin\left(\frac{n\pi}{2} + x\right)}$$

$$\boxed{u_{n-1} = \sin\left(\frac{(n-1)\pi}{2} + x\right)}$$

$$\boxed{u_{n-2} = \sin\left(\frac{(n-2)\pi}{2} + x\right)}$$

$\vdots$

550 912

If $y = x^2 \sin x$ then find $y_n = ?$

$V = x^2$ $\qquad$ $u = \sin x$

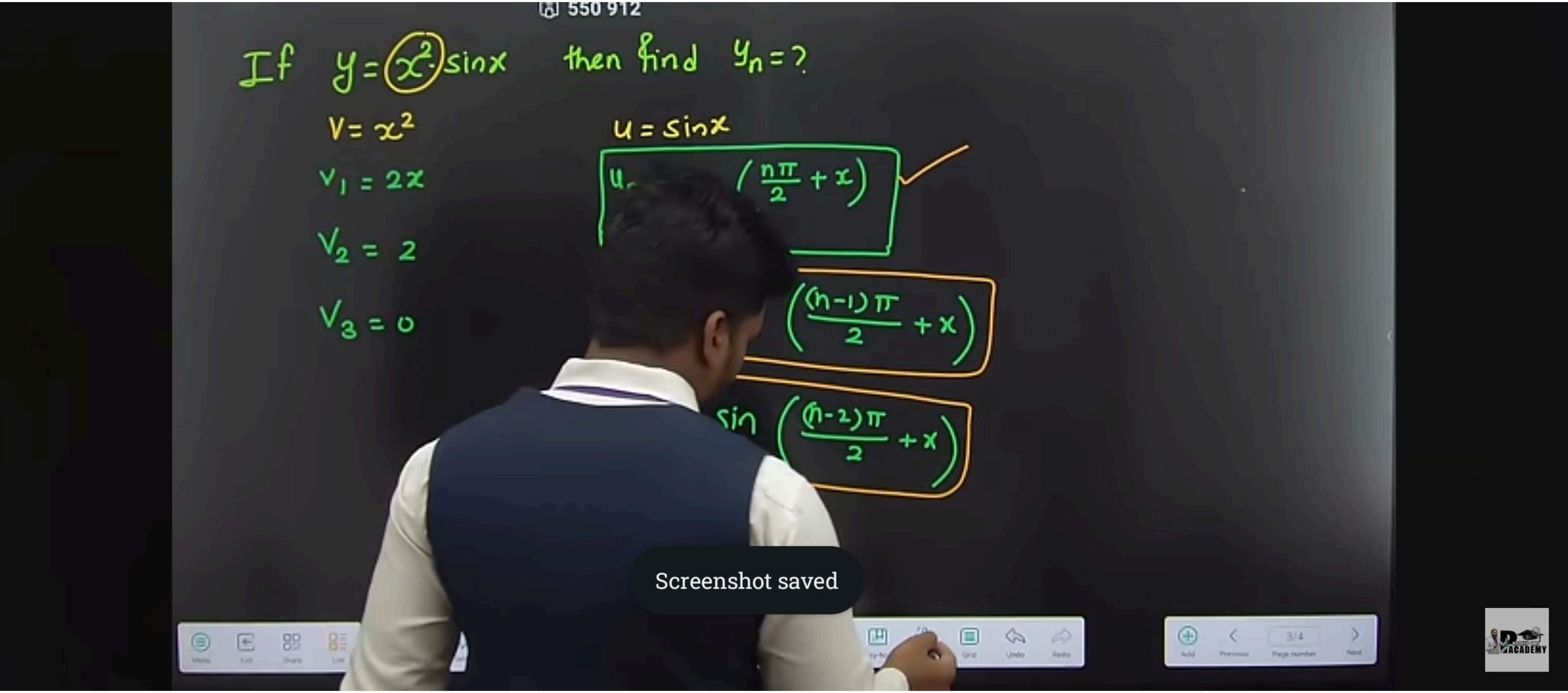
$V_1 = 2x$ $\qquad$ u_{n} ... $\left(\frac{n\pi}{2} + x\right)$

$V_2 = 2$ $\qquad$ ... $\left(\frac{(n-1)\pi}{2} + x\right)$

$V_3 = 0$ $\qquad$ ... $\sin\left(\frac{(n-2)\pi}{2} + x\right)$

Screenshot saved

3/4


550 912
If y = x^2 sinx then find y_n = ?
V = x^2
V_1 = 2x
V_2 = 2
V_3 = 0
u = sinx
((nπ)/2 + x)
(((n-1)π)/2 + x)
sin (((n-2)π)/2 + x)
Screenshot saved
3/4
ACADEMY

026 624

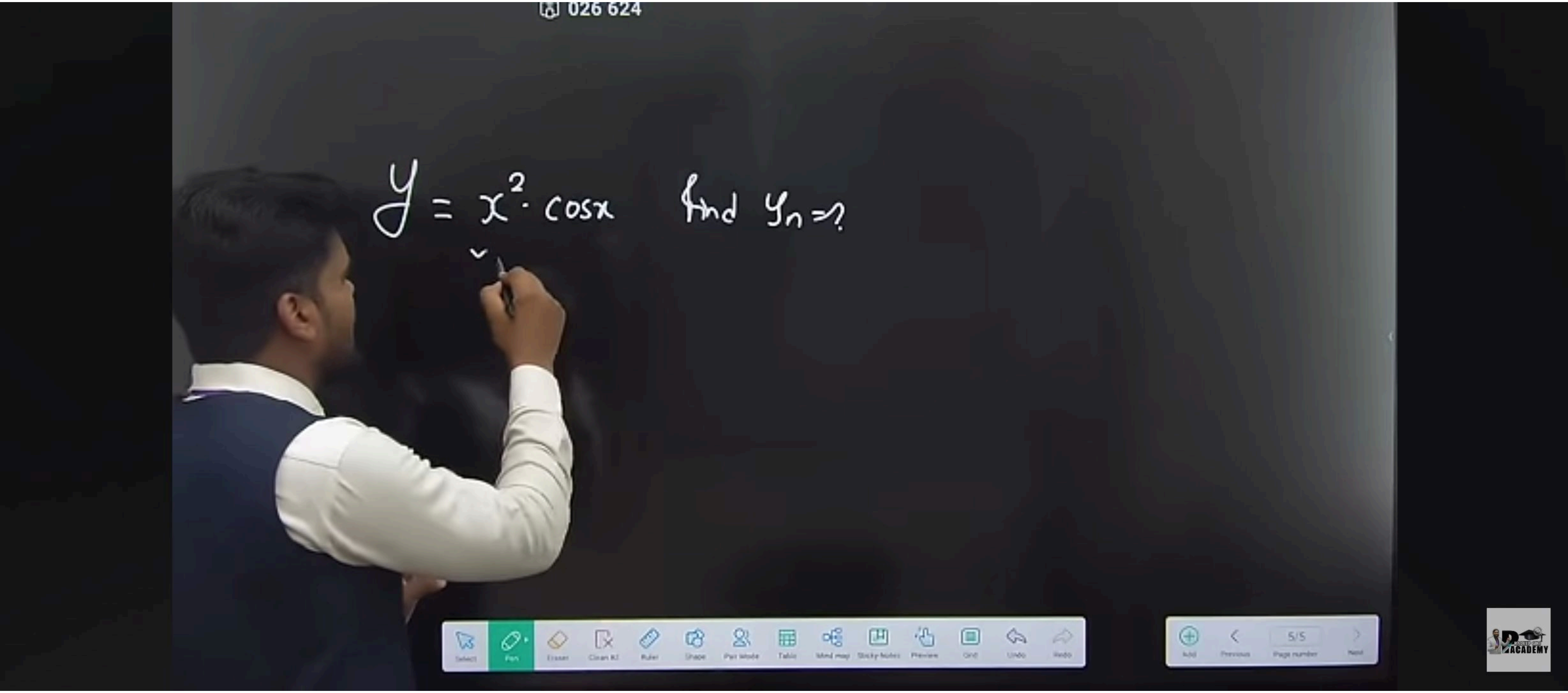
$$\boxed{u_{n-2} = \sin\left(\frac{(n-2)\pi}{2} + x\right)}$$

By L.T

$$(u \cdot v)_n = u_n \cdot v + {}^nC_1 u_{n-1} \cdot v_1 + {}^nC_2 u_{n-2} \cdot v_2$$

$$= \sin\left(\frac{n\pi}{2} + x\right) \cdot x^2 + n \cdot \sin\left(\frac{(n-1)\pi}{2} + x\right) \cdot 2x + \frac{n(n-1)}{\cancel{2}} \cdot \sin\left(\frac{(n-2)\pi}{2} + x\right) \cdot \cancel{2}$$

$= \sin$


026 624
$y = x^2 \cdot \cos x$ find $y_n = ?$
5/5
ACADEMY