
Nishant Jindal
Welcome
Class 11th
to Apni kaksha
LIVE

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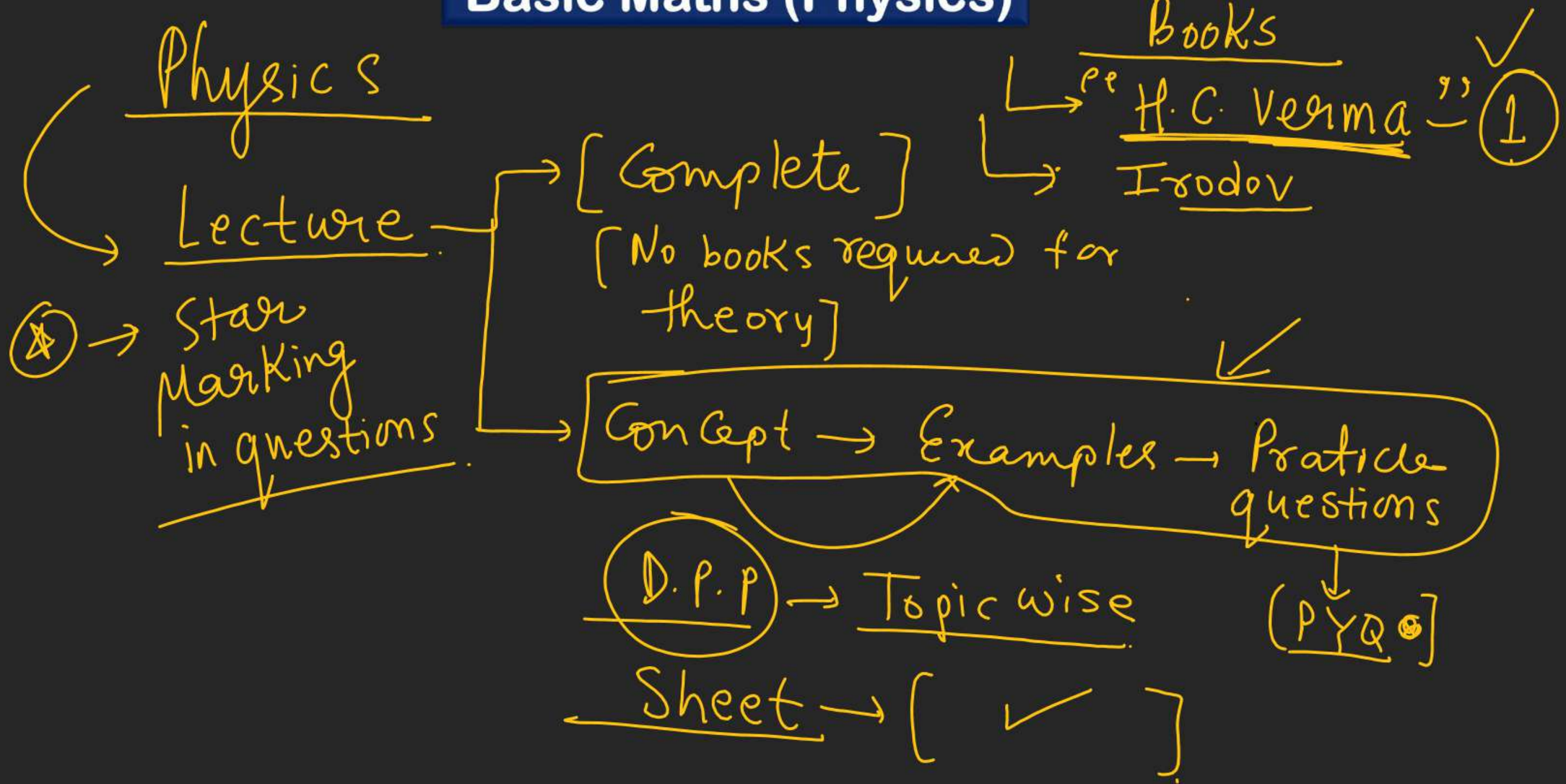
Basic Maths (Physics)



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Basic Maths (Physics)

→ Variable and Constant

- Dependent Variable
- Independent Variable

Function

↳ It tells the relation b/w dependent variable and independent variable

$$y = f(x)$$

↳ y is a function of x.

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$y = f(x)$ → (y is a function of x) → $y = f(x)$ ✓

$f(x)$

y → dependent Variable

x → Independent Variable

$y = x^2$ → quadratic

$y = \ln x$ → log function

$y = 2x$ → linear function

$y = \sin x$ → Trigonometeric function

$y = e^x$ → Exponential function

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Basic Maths (Physics)

(w.r.t → with respect to)

Linear function

$y = ax + b \rightarrow$ [linear function]

$$\boxed{y = mx + c}$$

$x = f(y)$

dependent Independent

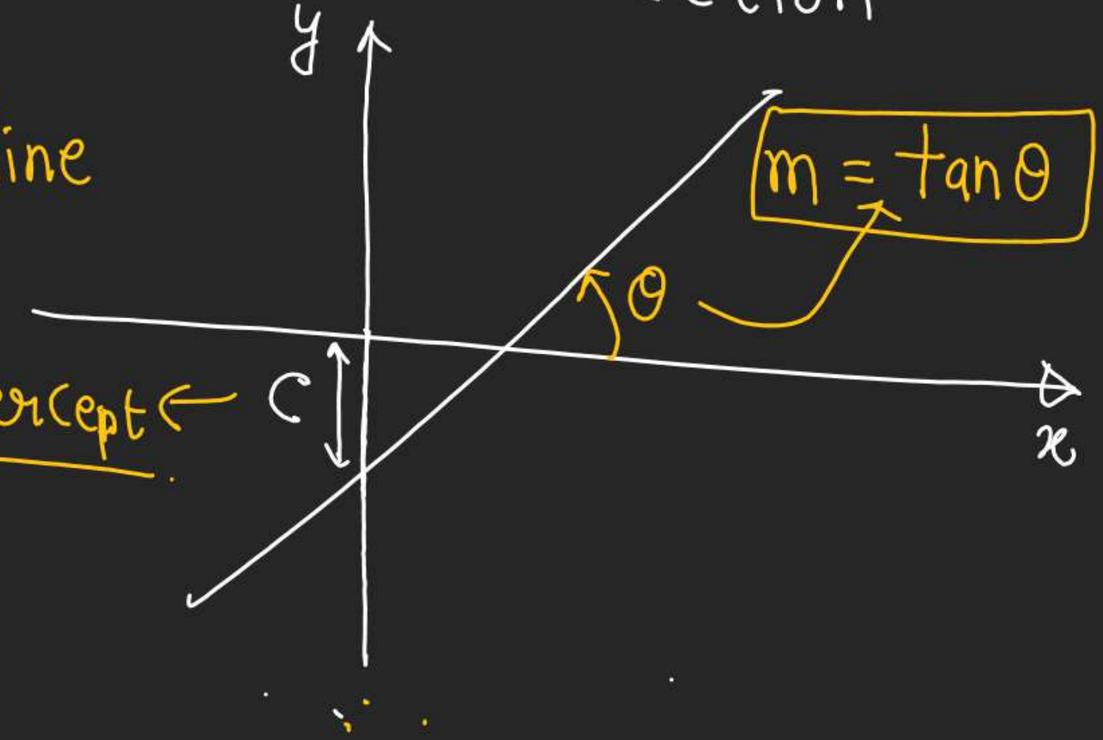
↳ Straight line

✓ $m \rightarrow$ Slope of the straight line

✓ $C \rightarrow$ Intercept

Slope of a Straight line

↳ It is tan of the angle made by straight line w.r.t +ve axis in antic - lockwise direction



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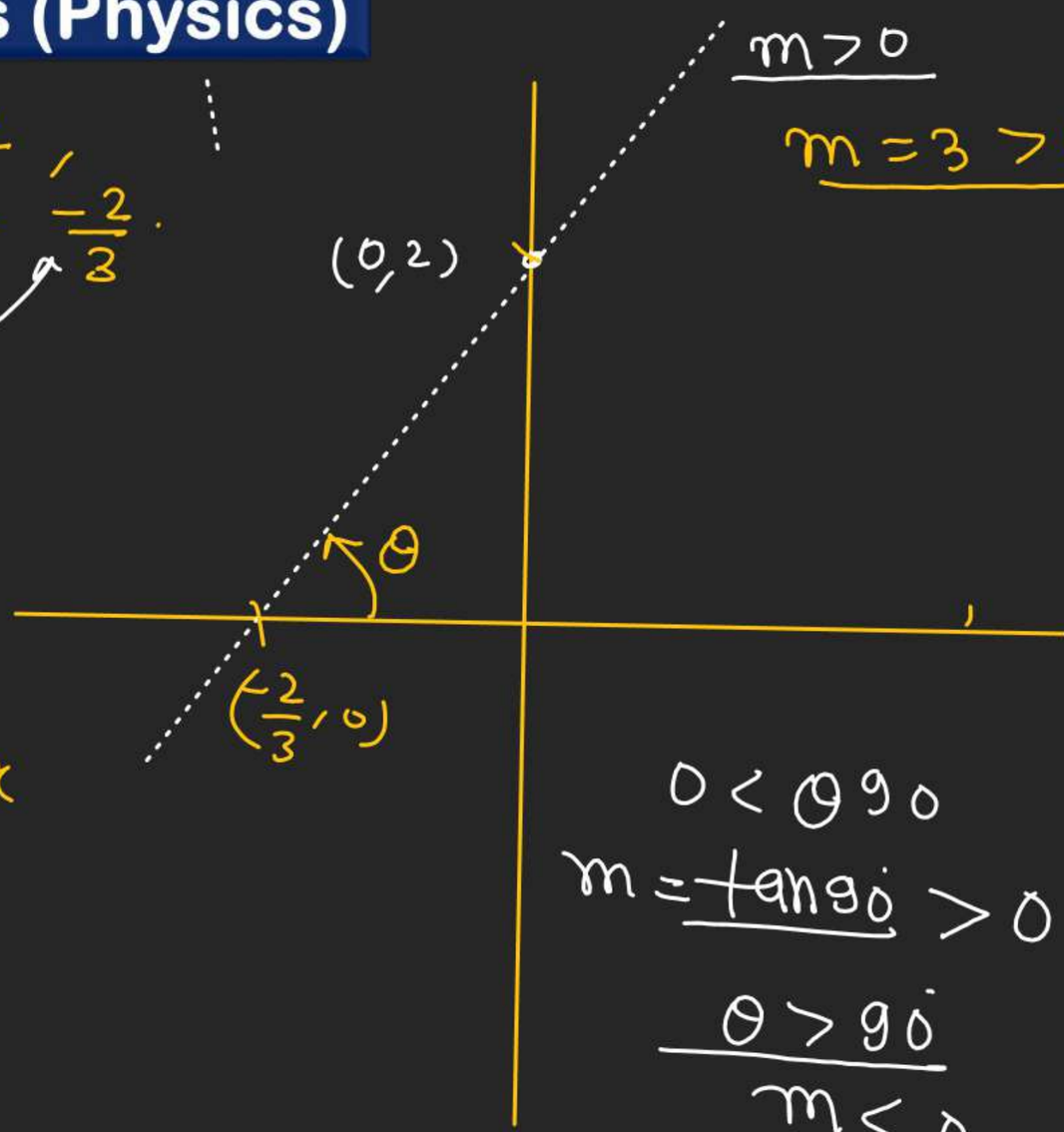
$y = mx + c$

$y = 3x + 2$

put $x = 0$, $y = 2$

put $y = 0$, $x = \frac{-2}{3}$



$m > 0$

$m = 3 > 0$

$0 < \theta < 90$

$m = \tan\theta > 0$

$\theta > 90$

$m < 0$

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Basic Maths (Physics)

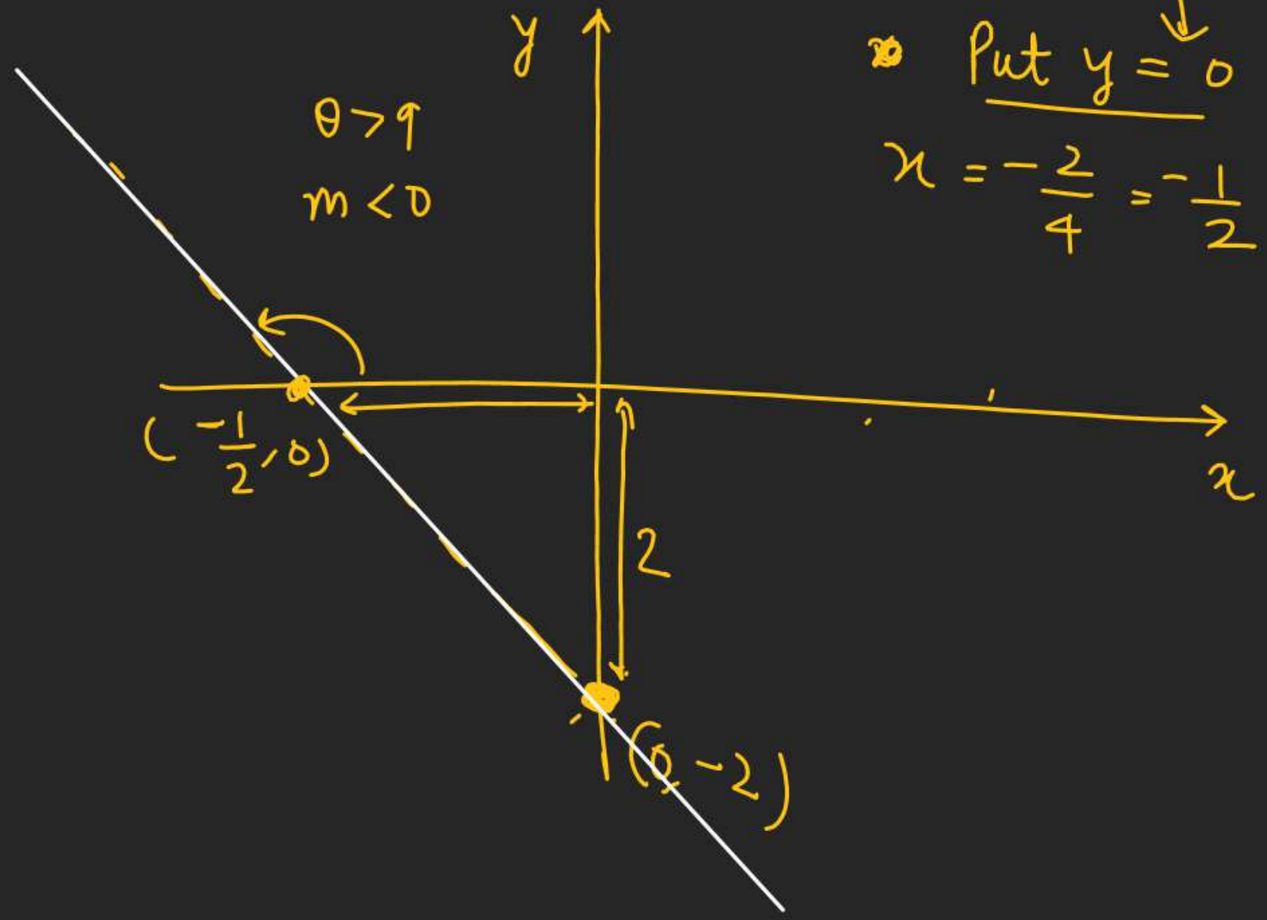
$y = mx + c$

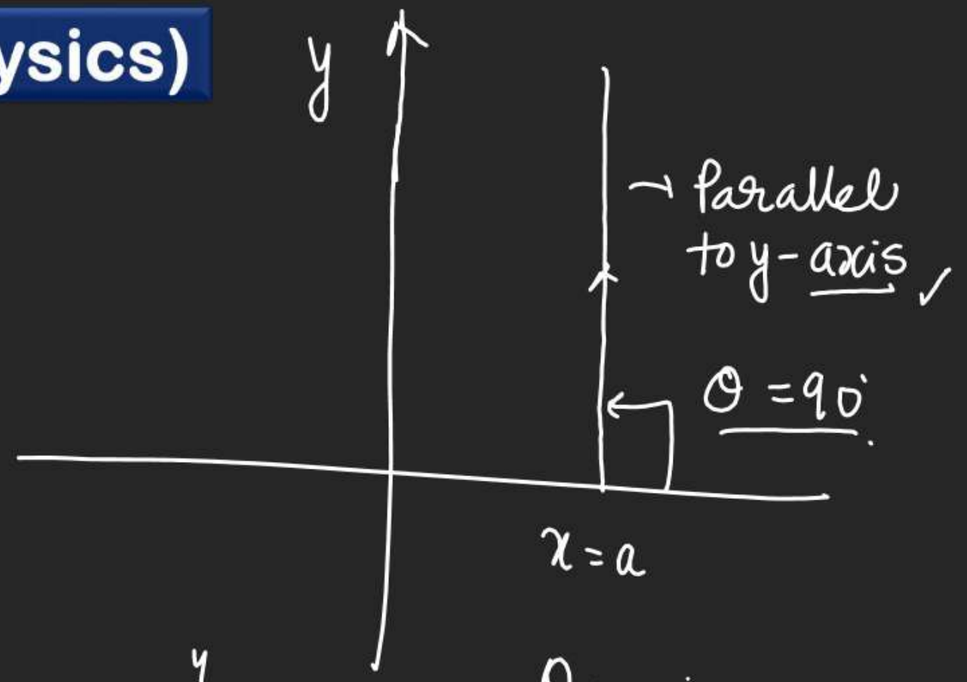
$y = -4x - 2$

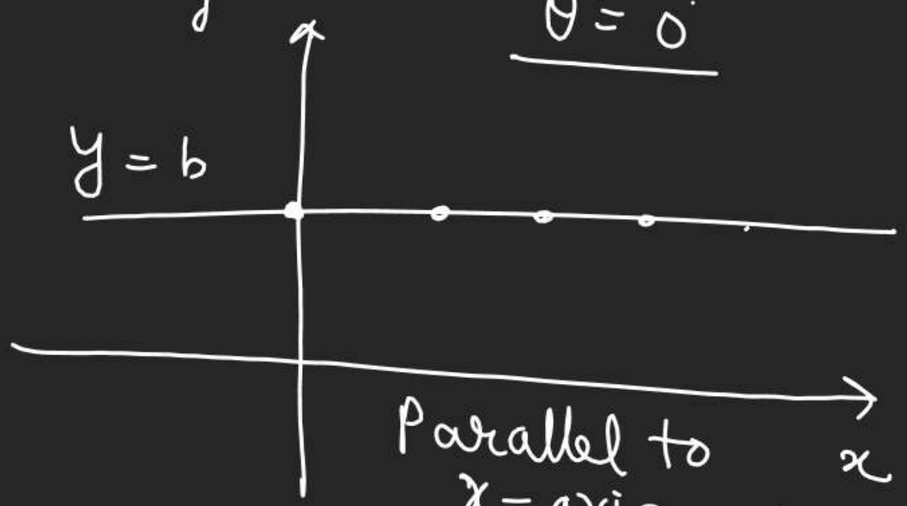
$m = -4, \quad c = -2$

* Put $y = 0$

$x = -\frac{2}{4} = -\frac{1}{2}$







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1st Kinematics equation

$$V = u + at$$

$$v = f(t)$$

Linear function

$y = c + mx$

$v = u + at$

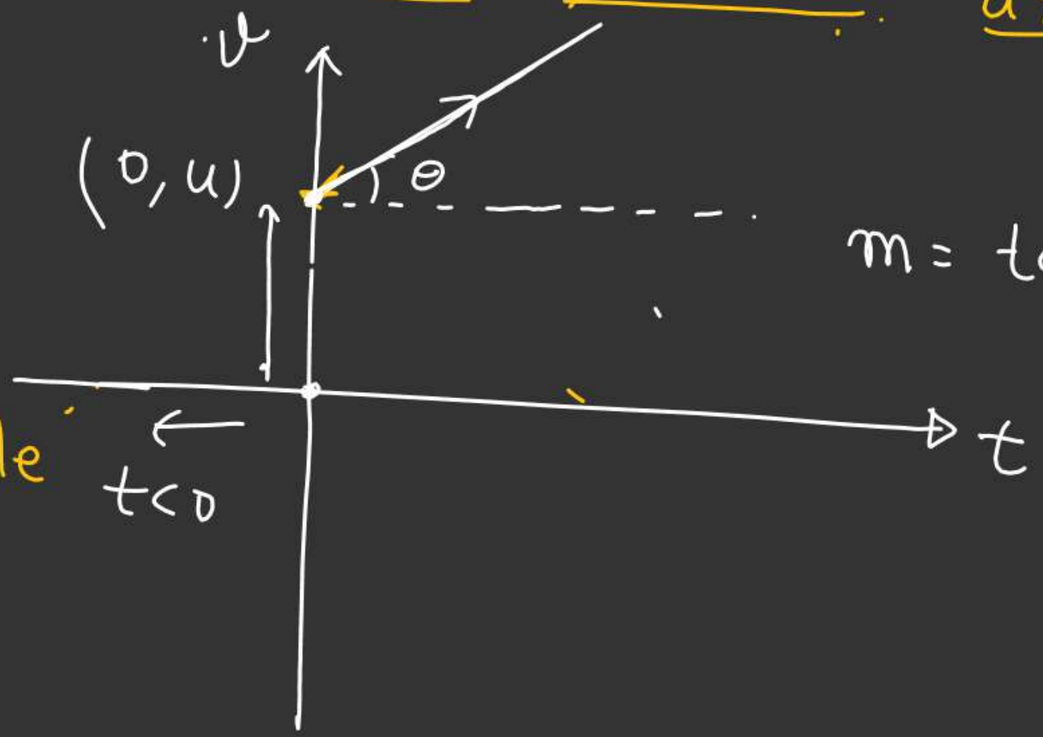
V = Velocity at 't'

u = Initial velocity

a = acceleration

u & a → Constant

V & t → Variable



$a > 0,\ u > 0$

$m = a > 0$

$c = u > 0$

$m = \tan\theta$

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$v = u - at$

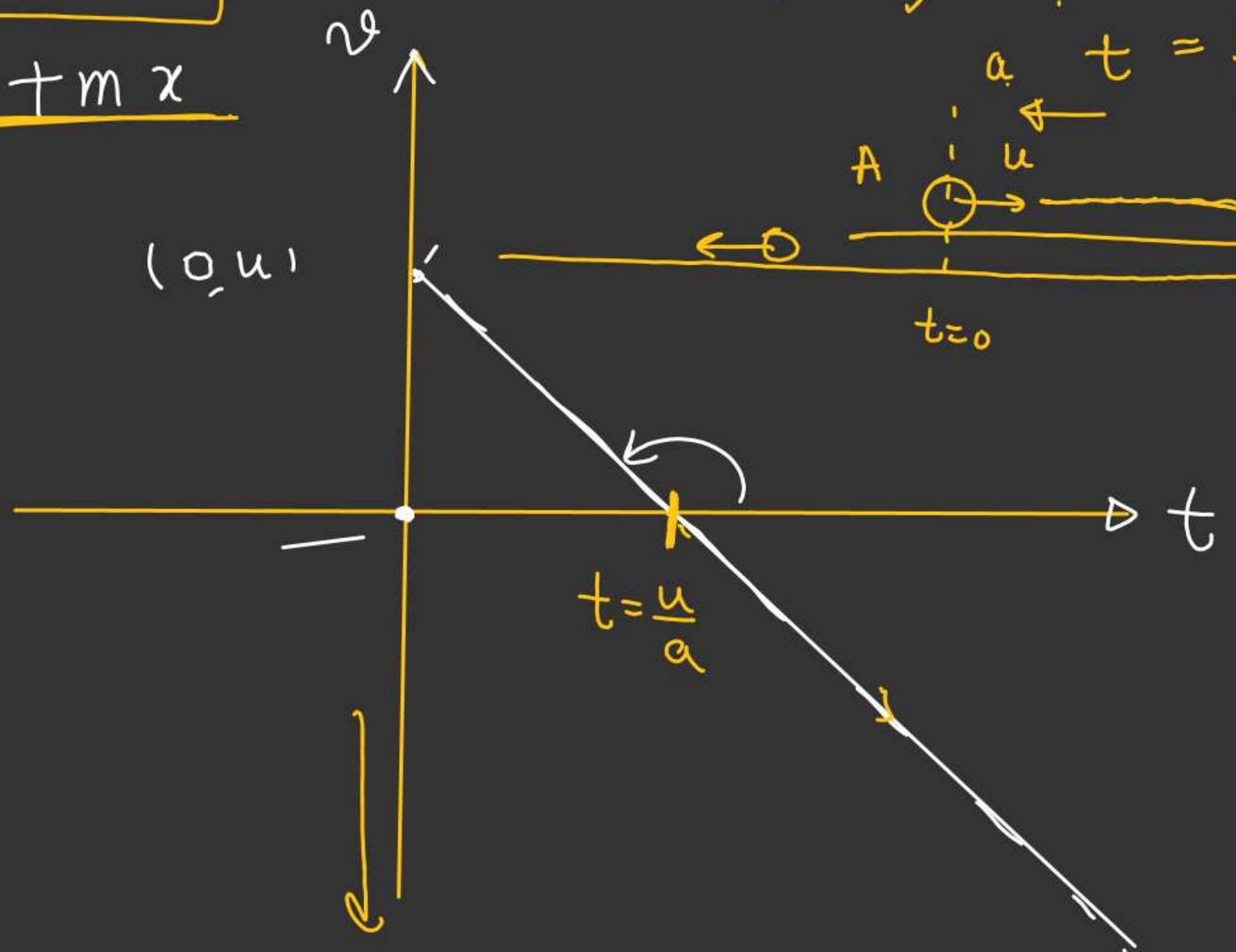
$y = c + mx$

$m = -a$

$c = u$

-ve

$(0, u)$



Put $t = 0$, $v = u$

$v = 0$, $0 = u - at$

$t = \frac{u}{a}$ ✓