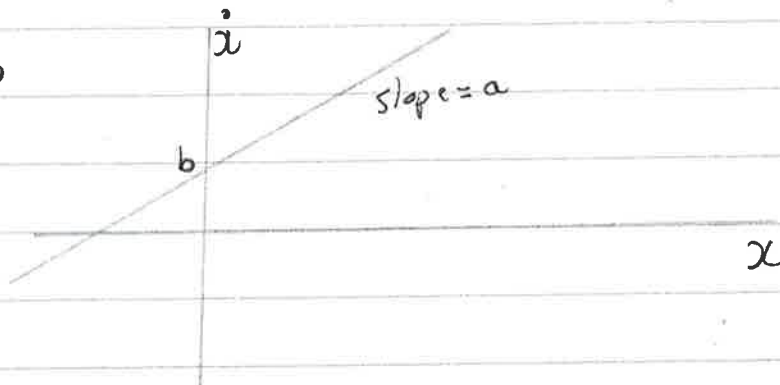


∃ only 1 first-order, autonomous, linear ODE

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$$\dot{x} = ax + b$$



$$\text{Let } y = \frac{x+b}{a}$$

$$\Rightarrow \dot{y} = \dot{x} = ax + b = ay$$

$$\therefore \dot{y} = ay$$

$$\text{Let } \tau = at, \text{ then } \frac{d}{d\tau} = \frac{1}{a} \frac{d}{dt}$$

$$\therefore \frac{dy}{d\tau} = y \quad \text{Q.E.D.}$$