

$$p = b + ks \pm k' \sqrt{a^2 - s^2} \quad b, k.$$

$$(p - p_0) \pm \sqrt{as^2 + bs + c}$$

$$as^2 + bs + c + 2fs + 2gp + 2hes = 0$$

$$p = b + ks \pm k' \sqrt{a^2 - s^2}$$

$$\frac{1}{\sqrt{v}} + \frac{s^2}{(v)^3}$$

$$p_1 = kp \mp k' \frac{sp}{\sqrt{a^2 - s^2}}$$

$$\frac{k k' a}{\dots}$$

$$p_2 = kp_1 \mp k' \frac{sp_1}{\sqrt{a^2 - s^2}} \mp k' p^2 \frac{a}{(\sqrt{a^2 - s^2})^3}$$

$$J = \int_0^{\infty} \frac{s \csc p \, dp}{(e^{kp} + e^{-kp})^2}$$

$$\frac{1}{2 + \frac{1}{2}} = \frac{1}{2} - \frac{1}{2^2} + \frac{1}{2^3} - \dots$$

$$\frac{1}{2^2 + \frac{1}{2^2}} = \frac{1}{2^2} - \frac{1}{2^4} + \frac{1}{2^6} - \dots$$

$$\frac{1}{1+x} = 1 - x + x^2 - x^3 + \dots$$

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

$$\frac{1}{(2 + \frac{1}{2})^2} = \frac{1}{2^2} \left(1 - \frac{2}{2^2} + \frac{3}{2^4} - \dots \right) = \frac{1}{2^2} - \frac{2}{2^4} + \frac{3}{2^6} - \dots$$

$$V = \int_0^{\infty} (e^{-2kp} - 2e^{-4kp} + 3e^{-6kp} - \dots) s \csc p \, dp$$

$$\int_0^{\infty} e^{-mp} s \csc p \, dp = \frac{1}{1+m^2}$$

$$\int_0^{\infty} e^{-mp} \csc p \, dp = \frac{m}{1+m^2}$$

$$S = \int \frac{2ax^2 dx}{\sqrt{[(a+b)^2 - x^4][x^4 - (a-b)^2]}}$$

$$p = \frac{2ax^3}{3x^4 - a^4 + b^4}$$

~~$$2ax^2$$~~

$$2ax^2 = \sqrt{\quad}$$

~~2a~~

$$4a^4x^4x^2 = (a^2+b^2)^2x^4 + (a^2-b^2)^2x^4 - x^8 - (a^4-b^4)^2$$

$$4a^4x^4x^2 = 2(a^4+b^4)x^4 - x^8 - (a^4-b^4)^2$$

$$\frac{p_1}{p} = \frac{(3x^4 - a^4 + b^4) \cdot 3x^3 - x^3 \cdot 12x}{(3x^4 - a^4 + b^4)^2} \sqrt{\quad}$$

$$-\frac{p_1}{p} = 3 \frac{x^4 + a^4 - b^4}{(3x^4 - a^4 + b^4)^2} \sqrt{\quad}$$

$$\frac{12x}{3x^4 - 2a^2} = \frac{3x^4}{(a^4 + b^4)}$$

$$x^4 = \frac{(a^4 - b^4)x}{3x^4 - 2a^2}$$

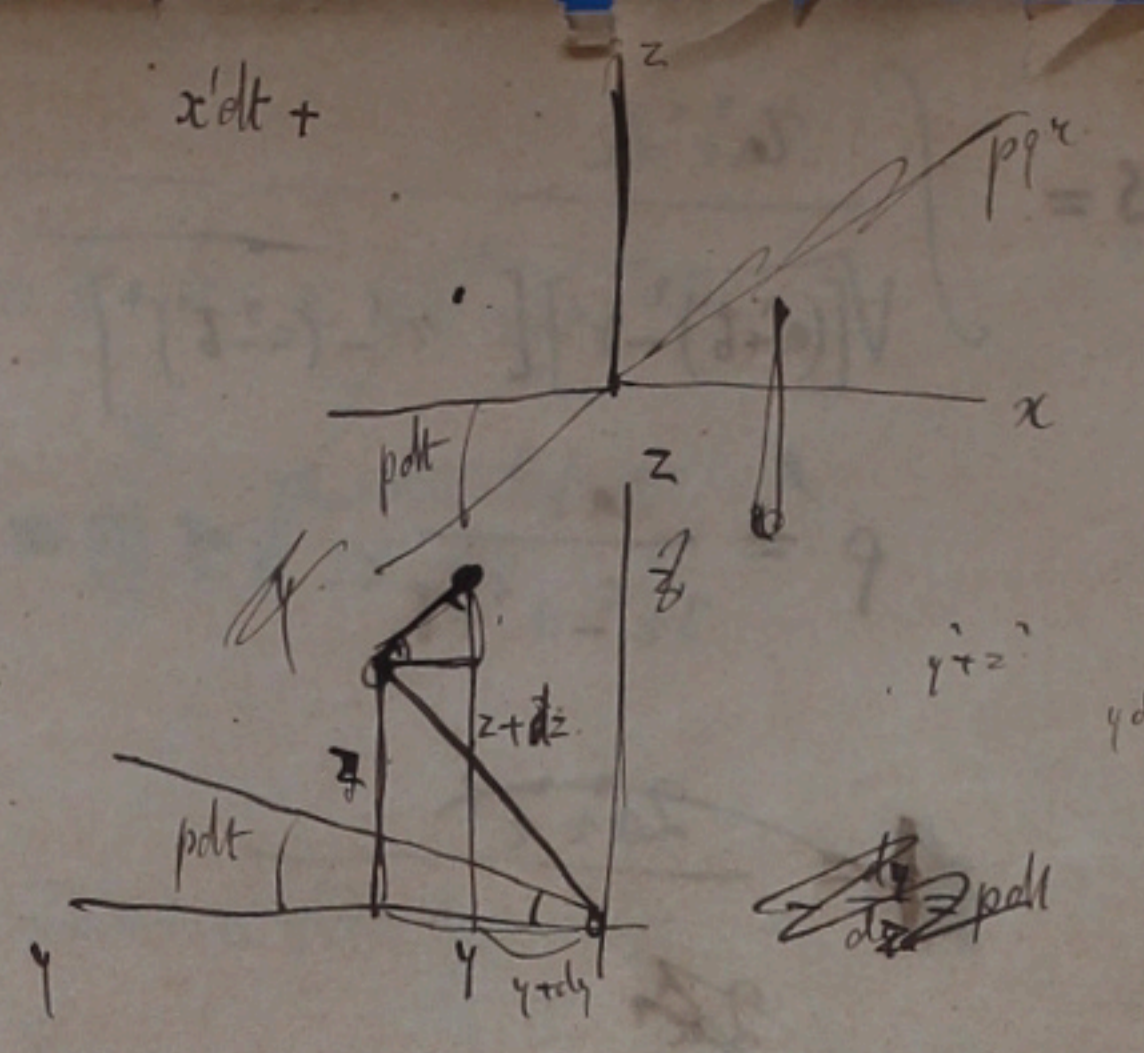
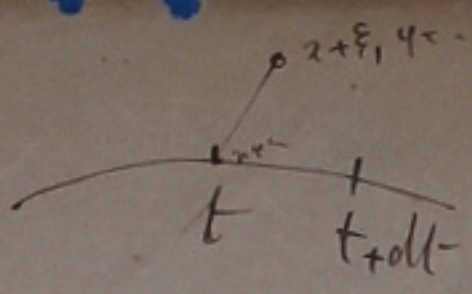
$$\frac{2ax^2}{\sqrt{a^4 - b^4}} = \sqrt{\left[(a^2+b^2) - \frac{(a^2-b^2)x}{3x^4 - 2a^2} \right] \left[\frac{(a^2+b^2)x}{3x^4 - 2a^2} - (a^2-b^2) \right]}$$

$$\frac{2ax^2}{\sqrt{a^4 - b^4}} = \sqrt{\quad}$$

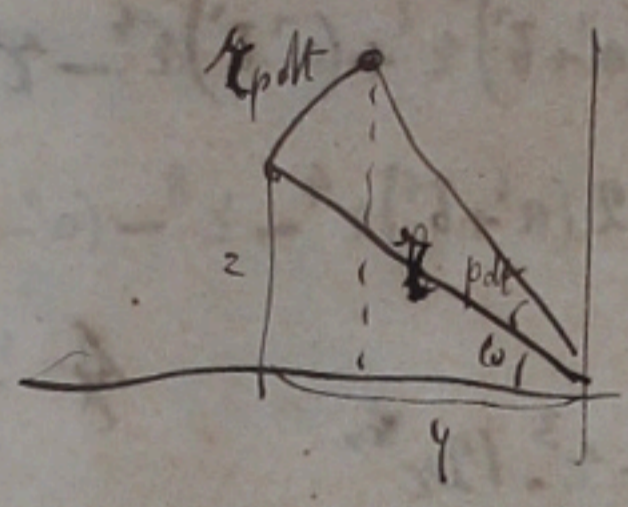
$$3(a^2+b^2)x - 2a^2(a^2+b^2) \quad (a^2+b^2)x - 3(a^2-b^2)x + 2a^2(a^2-b^2)$$

$$-(a^2-b^2)x \quad 2a^2(a^2-b^2) - (a^2+2b^2)x$$

$$2a^2 \left[\frac{(a^2-b^2)(a^2+2b^2) + (a^2+b^2)(a^2-2b^2)}{a^4 - 2b^4} \right] x - a^4(a^4 - b^4) - (a^4 - 4b^4)x^2$$



$$ydz + zdy = 0$$



$$z = \rho \cos \theta$$

$$y = \rho \sin \theta$$

$$d\rho = \rho d\theta$$

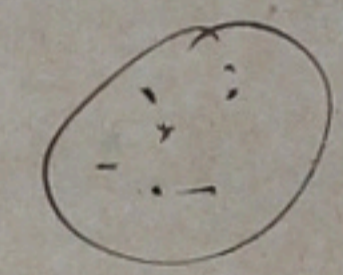
$$y = \rho \sin \theta \quad dy = -\rho \cos \theta d\theta + \sin \theta d\rho$$

$$z = \rho \cos \theta \quad dz = -\rho \sin \theta d\theta + \cos \theta d\rho$$

$$\begin{array}{l|l|l} dx=0 & dy=0 & dz=0 \\ dy = -z dw & dz = -x dw & dx = -y dw \\ dz = y dw & dx = z dw & dy = x dw \end{array}$$

	p	q	r
x	0	qz	-ry
y	-pz	0	rx
z	py	-qx	0

$$\frac{1}{2} \frac{\partial \mathcal{E}}{\partial \xi}, \quad \frac{1}{2} \frac{\partial \mathcal{E}}{\partial \eta}, \quad \frac{1}{2} \frac{\partial \mathcal{E}}{\partial \zeta}$$



$$\theta = \frac{c}{\rho^2}$$

No path enters or

$$d(x + \xi) = (x' dt + q\xi - ry) dt + \dots$$

$$d(y + \eta) = (y' + rz - qx) dt + \dots$$

$$d(z + \zeta) = (z' + py - q\xi) dt + \dots$$

$$dx = x' dt$$

$$x + \xi = x' + \frac{\partial x}{\partial \xi} \xi + \frac{\partial x}{\partial \eta} \eta + \frac{\partial x}{\partial \zeta} \zeta$$

$$d(x + \xi) = x' dt +$$

$$d(x + \xi) = \left(x' + \frac{\partial x}{\partial \xi} \xi + \frac{\partial x}{\partial \eta} \eta + \frac{\partial x}{\partial \zeta} \zeta \right) dt$$

$$d(x + \xi) - (x' + qz - ry) dt = \left(\frac{\partial x}{\partial \xi} \xi + \frac{\partial x}{\partial \eta} \eta + \frac{\partial x}{\partial \zeta} \zeta \right) dt - (q\xi - r\eta) dt$$

$$\frac{\partial x}{\partial \xi} \xi + \frac{\partial x}{\partial \eta} \eta + \frac{\partial x}{\partial \zeta} \zeta = \left(\frac{\partial x}{\partial \xi} \xi + \frac{\partial x}{\partial \eta} \eta + \frac{\partial x}{\partial \zeta} \zeta \right) + \left(\frac{\partial x}{\partial \xi} \xi + \frac{\partial x}{\partial \eta} \eta + \frac{\partial x}{\partial \zeta} \zeta \right)$$

$$\mathcal{E}(\xi, \eta, \zeta) = \frac{\partial x}{\partial \xi} \xi + \dots$$

$$\frac{1}{2} \frac{\partial \mathcal{E}}{\partial \xi} = \frac{\partial x}{\partial \xi} \xi + \frac{1}{2} (-) \eta + \dots$$