x, y, z → u, v, w, t

ξ, η, ζ, t

$x' \quad y' \quad z'$

$$J = \frac{\partial(x,y,z)}{\partial(u,v,w)}$$

$x' = \frac{\partial \varphi}{\partial x}$

$y' = \frac{\partial \varphi}{\partial y}$

$z' =$

$$(\log J)' = \frac{\partial x'}{\partial x} + \dots$$

$\log$

$$\frac{\partial(x,y,z)}{\partial(u,v,w)} = \frac{\partial(x,y,z)}{\partial(\xi,\eta,\zeta)} \cdot \frac{\partial(\xi,\eta,\zeta)}{\partial(u,v,w)}$$

u, v, w

x, y, z

$$\mathcal{D} = \frac{\partial(x,y,z)}{\partial(\xi,\eta,\zeta)} = \frac{\partial(x,y,z)}{\partial(u,v,w)} \cdot \frac{\partial(u,v,w)}{\partial(\xi,\eta,\zeta)}$$

J

$$J = \frac{\partial(x,y,z)}{\partial(u,v,w)}$$

$x_0\, y_0\, z_0$

$u, v, w, \mathcal{D}$

$$\mathcal{D} = \frac{\partial(x,y,z)}{\partial(u,v,w)}$$

16.

3

12

16

$\frac{x, y, z}{u, v, w.}$

Monsieur,

Je ne sais pas si j'arriverai à temps pour corriger une petite erreur dans mon Analyse. Dans la Note au bas de la page 329 il faut supprimer l'accent sur Quételet. Dans le cas, fort probable, que la feuille aurait déjà été imprimée, je vous prie de communiquer cette carte à M. Kowal[illegible] pour l'errata.

600 1250

600 1200

2500

$$e^{mz} = \frac{\cos mx}{\cos my}$$

$$mz = \log\cos m\frac{x}{a} - \log\cos m\frac{y}{a}$$

$$\frac{z}{a} = \log\cos\frac{x}{a} - \log\cos\frac{y}{a}$$

$z = 2a$

210

$$p = -\frac{\sin\frac{x}{a}}{\cos\frac{x}{a}}$$

$p = -\operatorname{tg}\frac{x}{a}$

$q = \operatorname{tg}\frac{y}{a}$

1 12. 4

3 500

Je suis

$$r = -\frac{1}{a\cos^2\frac{x}{a}}, \quad t = \frac{1}{a\cos^2\frac{y}{a}}$$

$s = 0$

$sh\frac{x}{a} = \frac{1}{2}\left(e^{\frac{x}{a}} - e^{-\frac{x}{a}}\right)$ $ch^2 - sh^2 = 1$

$$\sin\frac{z}{a} = sh\frac{x}{a}\, sh\frac{y}{a}.$$

$sh\frac{x}{a} = tg(u+v)$, $dx = a\frac{du+dv}{\cos^2(u+v)}$

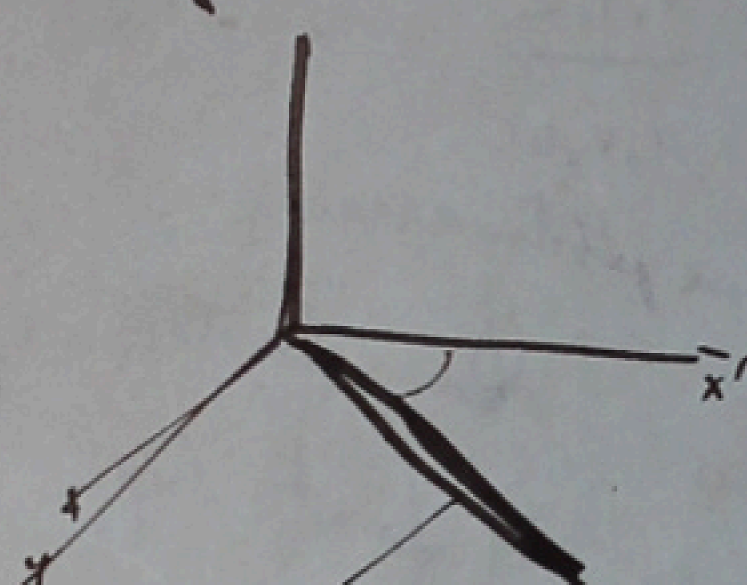
$sh\frac{y}{a} = tg(u-v)$, $dy = a\frac{du-dv}{\cos^2(u-v)}$

~~$p\cos\frac{z}{a} = \frac{1}{a} ch\frac{x}{a}$~~ $\frac{p}{a}\cos\frac{z}{a} = ch\frac{x}{a}\,\frac{du+dv}{\cos^2(u+v)} \cdot \frac{tg(u-v)}{\sqrt{1 - tg^2(u+v)\,tg^2(u-v)}}$

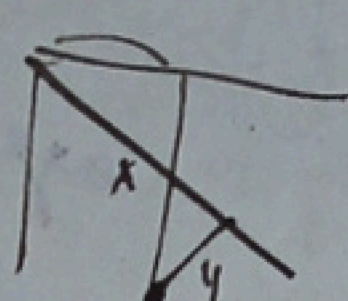
$$p = \frac{(du+dv)\,\sin(u-v)}{\cos^2(u+v)\sqrt{\cos 2u\cos 2v}}$$

~~$\cos(u+v)\cos(u-v) =$~~

$\frac{q}{a}\cos\frac{z}{a} = sh\frac{x}{a}\cdot ch\frac{y}{a}\,\frac{(du-dv)\ \sin(u+v)}{\cos^2(u-v)\sqrt{1 - tg^2(u)\,tg^2(v)}\cdot\cos(u+v)}$



$$q = \frac{\sin(u+v)\cdot(du-dv)}{\cos(u-v)\sqrt{\cos 2u\cos 2v}}$$



$\sin\frac{z}{a} = sh\frac{x'}{a}\, sh\frac{y'}{a}$

$= sh\frac{x+y}{a\sqrt{2}}\, sh\frac{x-y}{a\sqrt{2}}$

$x' = \frac{x-y}{\sqrt{2}}$

$y' = \frac{x+y}{\sqrt{2}}$

$\frac{1}{2}(e^{\alpha} - e^{-\alpha})\cdot\frac{1}{2}(e^{\beta} - e^{-\beta})$

$sh(\alpha+\beta) = \frac{1}{2}\left(e^{\alpha+\beta} - e^{-\alpha-\beta}\right)$

$shx = \frac{1}{2}(e^{x} - e^{-x})$

$e^{ix} - e^{-ix}$ sh

$\sin\frac{z}{a} = \left[sh\frac{x}{a\sqrt{2}}\,ch\frac{y}{a\sqrt{2}}\right]^2 - \left(sh\frac{y}{a\sqrt{2}}\,ch\frac{x}{a\sqrt{2}}\right]^2$

$shix = i\,sen\,x$

$shx = -i\,sen\,ix$

$sh(\alpha+\beta) = -i\,sen(i\alpha + i\beta)$

$= -i\,sen\,i\alpha\cos i\beta - i\,\cos i\alpha\,sen\,i\beta$

$chx = \frac{1}{2}(e^{x} + e^{-x})$

$= sh\alpha\, ch\beta - sh\beta\, ch\alpha$

$\cos ix = \frac{1}{2}(e^{-x} + e^{+ix})$

$\sin\frac{z}{a} = sh^2\frac{x}{a\sqrt{2}}\left[1 + sh^2\frac{y}{a\sqrt{2}}\right] - sh^2\frac{y}{a\sqrt{2}}\left[1 + sh^2\frac{x}{2}\right]$