Subject _____ موضوع الدرس

Date: / / الموافق / / التاريخ

$$\Rightarrow \mp \frac{\partial u}{\sqrt{1+a^2}} = \frac{\partial z}{\sqrt{z}}$$

$$\Rightarrow \mp \int \frac{\partial u}{\sqrt{1+a^2}} = \int \frac{\partial z}{z^{\frac{1}{2}}}$$

$$\Rightarrow \mp \int \frac{\partial u}{\sqrt{1+a^2}} = \int z^{-\frac{1}{2}} \partial z$$

$$\Rightarrow \frac{\mp u}{\sqrt{1+a^2}} \cdot = 2\sqrt{z} + C$$

$$\Rightarrow \frac{\mp x+ay}{\sqrt{1+a^2}} = 2\sqrt{z} + C$$

Subject _____ موضوع الدرس

Date: / / الموافق / / التاريخ

ex② Solve $q(z-q)=p$

let $u = x+ay$

$$p=\frac{\partial z}{\partial u}, \quad q = a\frac{\partial z}{\partial u}$$

$$a\frac{\partial z}{\partial u}\cdot\left(z - a\frac{\partial z}{\partial u}\right) = \frac{\partial z}{\partial u} \quad \Big] \div \frac{\partial z}{\partial u}$$

$$\Rightarrow a\left(z - a\frac{\partial z}{\partial u}\right) = 1$$

$$\Rightarrow az - a^2\frac{\partial z}{\partial u} = 1$$

$$\Rightarrow az - 1 = a^2\frac{\partial z}{\partial u}$$

$$\Rightarrow \int \frac{\partial u}{a^2} = \int \frac{\partial z}{az-1}$$

$$\Rightarrow \frac{u}{a^2} = \frac{1}{a}\int \frac{a\,\partial z}{az-1}$$

كتابة a بالمقام داخل ضرب ونقسم بـ a

$$\Rightarrow \frac{u}{a^2} = \frac{1}{a}\ln|az-1| + C$$

$$\Rightarrow \frac{x+ay}{a^2} = \frac{1}{a}\ln|az-1| + C$$