Q1. Derive Cauchy Riemann equation in Ccotesian form.
· —⑤

Q2. Show that $W = f(z) = z + e^z$ is analytic and hence
find dw/dz —⑱

Q3. Verify the analytic fn $f(z) = \log z$, hence find its derivative.
—⑫

Q4. If $f(z)$ is analytic, show that $\left[\left(\frac{\partial^2}{\partial x^2}\right) + \left(\frac{\partial^2}{\partial y^2}\right)\right] |f(z)|^2$
$= 4|f'(z)|^2$
—⑬

Q5. Construct analytic function whose real part
is $u = e^{2x}(x\cos 2y - y\sin 2y)$
— ㉔

Q6. Find the analytic function, $f(z) = u + iv$,
if $(u-v) = e^x[\cos y - \sin y]$ —㉗

Q7. Show that an analytical function with constant
modulus is constant. —⑯