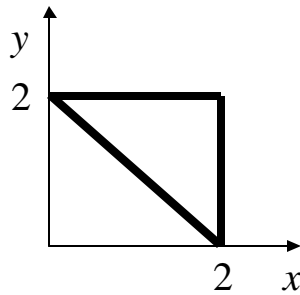


Sample Exam. Good Luck!

1. A load impedance $Z_L = 35 + j75 \Omega$ to a transmission line with characteristic impedance $Z_o = 50 \Omega$. A short-circuit stub is placed directly at the load. The length of the stub at directly at the load is 0.176λ . What is the new admittance upon adding this tub?
2. Find the Standing Wave Ratio of the load $Z_L = 35 + j75\Omega$ on a 50Ω line.:
3. Find the Reflection Coefficient of the load $Z_L = 35 + j75\Omega$ on a 50Ω line.
4. For the vector field $\vec{E} = \hat{x}2xy - \hat{y}(x^3 + 0.5y^2)$, and given the contour shown below:
Calculate
 - (a) $\oint_C \vec{E} \cdot d\vec{l}$
 - (b) $\oint_S (\vec{\nabla} \times \vec{E}) \cdot d\vec{s}$



5. If $\vec{E} = \hat{x}E_o e^{-jkz}$ in a region,
 - (a) Find the corresponding magnetic field.
 - (b) Find $\vec{E}(t)$
 - (c) Find $\vec{H}(t)$
 - (d) Find the instantaneous power density (or Poynting vector).
 - (e) Find the time-average Poynting vector.