4) 
$$\hat{S}(\omega) = \frac{2}{\sqrt{2\pi}} \int_{-\infty}^{\infty} f(x)e^{i\omega x} dx = \frac{2}{\sqrt{2\pi}} \int_{-3}^{3} e^{-i\omega x} dx$$

$$= \frac{2}{\sqrt{2\pi}} \left[ \frac{e^{-i\omega x}}{e^{-i\omega x}} \right]_{-3}^{3} - 2i \left( \frac{e^{-i\cdot 3\omega}}{e^{-i\cdot 3\omega}} - \frac{e^{-i\cdot 3\omega}}{e^{-i\cdot 3\omega}} \right) \left[ \frac{2}{e^{-i\cdot 3\omega}} \right]_{-3}^{3} = \frac{2}{e^{-i\omega x}} dx$$

$$= \frac{2}{\sqrt{2\pi}} \left[ \frac{e^{-i\omega x}}{e^{-i\omega}} \right]_{-3}^{3} - 2i \left( \frac{e^{-i\cdot 3\omega}}{e^{-i\cdot 3\omega}} - \frac{e^{-i\cdot 3\omega}}{e^{-i\cdot 3\omega}} \right) \left[ \frac{2}{e^{-i\cdot 3\omega}} \right]_{-3}^{3} = \frac{2}{e^{-i\omega x}} dx$$

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$$= \frac{2}{\sqrt{2\pi}} \left[ \frac{e^{$$

a) 
$$\int x^2 + y^2 = 2$$
  $\arctan \frac{x}{y} = \frac{\pi}{6}$   $2 < \frac{\pi}{6}$ 

$$2\left(\cos\frac{\pi}{6} + j\sin\frac{\pi}{6}\right) = 1.73+j$$

2 ( 
$$\cos \frac{11}{3} + i \sin \frac{17}{3}$$
) = 1 + 1.73 i

$$\sqrt{\left(\frac{1+1.73i}{4+3i}\right)^2} = \frac{1-1.73}{16-9} = \frac{-0.73}{7} \times \left[-0.1\right]$$

9) B) 
$$f(z) = x + iy$$

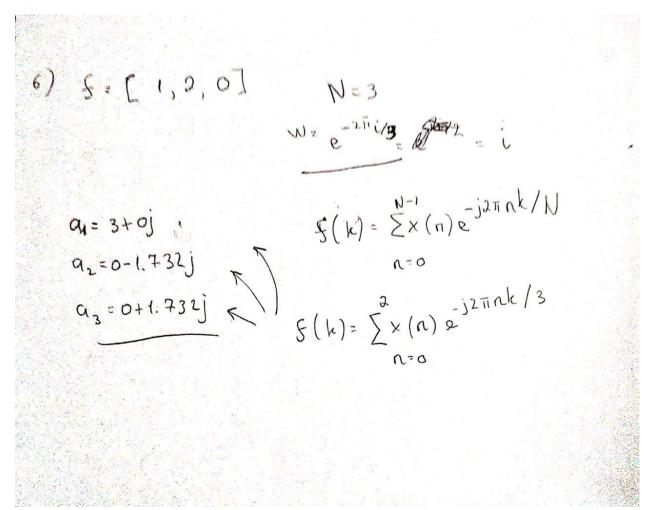
$$f(z) = x - iy$$

$$u_x = x_6, \quad J_2 - y$$

$$u_{x=1}$$
  $u_{x} = 0$   $u_{x} = 0$   $u_{x} = 0$   $u_{y} = 0$ 

$$(2+3i)^{0.2} = 3.6 \cdot e^{i \cdot 0.98} = (3.6 \cdot e^{i \cdot 0.31\pi})^{0.2} = 3.6 \cdot e^{i \cdot 0.2 \cdot 0.31}$$

Rectangular form = 2 = 1.26 + 0.25 i



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