

Josh Brown

Analytical Methods exam 2

2004738

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Question 2 - Complex numbers

a) $Z_1 + Z_2$
 $(2+3j) + (1+5j)$
 $3 + 8j$

ii) $Z_1 + Z_3$
 $(2+3j) + (3-j)$
 $2+3j-3+j$
 $-1+4j$

iii) Z_1/Z_2
 $(2+3j)/(1+5j)$

Conjugate

$$\frac{2+3j}{1+5j} \times \frac{1-5j}{1-5j}$$

$$\frac{2+10j+3j-15j^2}{1+5j+8j-1}$$

$$\frac{2+10j+3j-14}{1-1}$$

~~$2+13j-14$~~

$$\frac{2+13j-14}{2}$$

$$\frac{-12+13j}{2}$$

$$\frac{-12}{2} + \frac{13j}{2}$$