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Question Five

a) i) ~~$z_1 + z_2$~~
 $(3+7j) + (2-10j)$

$7j - 10j + 3 + 2$

$7j - 10j + 5$
 $(= -3j + 5)$

ii) $z_1 - z_2$

$3+7j - 2-10j$
 $7j - 10j + 3 - 2$
 $= 7j - 10j + 1$
 $(= -3j + 1)$

iii) $\frac{z_1}{z_2} = \frac{3+7j}{2-10j}$

~~$z_1 z_2$~~ $\frac{7j+3}{-10j+2} = \frac{7}{10} + \frac{22}{5} \frac{-10j+2}{-10j+2}$

$= -\frac{7}{10} + \frac{11}{5}(-5j+1)$