

Q3) (c)

$1+3i$ and $1+i$

$$\frac{1+3i}{1+i}$$

Apply complex arithmetic rule:

$$a=1, b=3, c=1, d=1$$

$$= \frac{(1 \times 1 + 3 \times 1) + (3 \times 1 - 1 \times 1)i}{1^2 + 1^2}$$

$$\text{Refine : } = \frac{4+2i}{2}$$

$$\text{Simplify : } \frac{4+2i}{2} = 2+i$$

$$= \underline{\underline{2+i}}$$