

$$b) \quad Z = (4 + 7i)(3 - 2i)$$

$$12 - 8i + 21i - 14i^2$$

$$12 + 13i + 14$$

$$26 + 13i$$

$$R = \sqrt{26^2 + 13^2}$$

$$R = 29.07$$

$$\tan^{-1}\left(\frac{13}{26}\right) = 26.57^\circ$$

$$\therefore Z = 29.07 \angle 26.57^\circ$$

$$c) \quad \frac{1+5i}{1+i}$$

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

$$\frac{1+2i+3}{1+i} = \frac{4+2i}{2} = \frac{2+i}{1}$$