

Simplify the following complex number.

$$\frac{2+i}{7+i}$$

$$\frac{2+i}{7+i} = \frac{2+i}{7+i} \cdot \frac{7-i}{7-i} \quad \text{complex conjugate}$$

$$= \frac{14+7i-2i-i^2}{49-i^2} \quad i^2 = -1$$

$$= \frac{15+5i}{50} = \frac{3}{10} + \frac{i}{10}$$