

$$\begin{aligned}
 a) \quad \frac{(3+2i)}{i} \cdot \frac{i}{i} &= \frac{3i+2i^2}{i^2(-1)} \\
 &= \frac{-2+3i}{-1} \\
 &= 2-3i
 \end{aligned}$$

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$$\begin{aligned}
 b) \quad \frac{5}{3i} \cdot \frac{i}{i} &= \frac{5i}{3i^2} \\
 &= -\frac{5i}{3}
 \end{aligned}$$

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$$\begin{aligned}
 a) \quad \frac{(2+i)(4+5i)}{(4-5i)(4+5i)} &= \frac{8+10i+4i+5i^2}{16+20i-20i-25i^2} \\
 &= \frac{3+14i}{41}
 \end{aligned}$$

Conjugate:  
 $4-5i \rightarrow 4+5i$

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$$\begin{aligned}
 b) \quad \frac{(5-2i)(3-3i)}{(3+3i)(3-3i)} &= \frac{15-15i-6i+6i^2}{9-9i+9i-9i^2} \\
 &= \frac{9-21i}{18} \\
 &= \frac{3-7i}{6}
 \end{aligned}$$

$\frac{1}{2} - \frac{7i}{6}$

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