

$$1. \quad 3i\sqrt{2} \cdot \sqrt{2} \cdot 4 \cdot \frac{2}{2}$$

$$(3i\sqrt{2}) 2i\sqrt{3}$$

$$\frac{6i^2\sqrt{6}}{-6\sqrt{6}}$$

$$i = \sqrt{-1}$$

$$i^2 = (\sqrt{-1})^2 = -1$$

$$2. \quad (-3 + 4i) + (5 - i)$$

$$2 + 3i$$

$$3. \quad i^{75} = -i$$

$$\frac{75}{4} = 18.75$$

}	$i = i$ $1/4 = .25$
	$i^2 = -1$ $2/4 = .5$
	$i^3 = i^2 \cdot i = -i$ $3/4 = .75$
	$i^4 = i^3 \cdot i = -i \cdot i = -i^2 = 1$ $4/4 = 1$

$$4. \quad (4 - 6i)(3 + 3i)$$

$$12 - 18i + 32i - 48i^2$$

$$12 + 14i - 48i^2$$

$$12 + 14i + 48$$

$$60 + 14i$$

$$5. \quad (-3i)^2$$

$$9i^2 = 9(-1) = -9$$

$$6. \quad (1 - 2i)^2$$

$$(1 - 2i)(1 - 2i)$$

$$1 - 2i - 2i + 4i^2$$

$$1 - 4i - 4$$

$$-3 - 4i$$

$$7. \quad 3i(4 - 5i)$$

$$12i - 15i^2$$

$$12i - 15(-1)$$

$$12i + 15$$

$$15 + 12i$$

$$\begin{aligned} 8. & (13 + 6i) - (-2 + 3i) \\ & 13 + 6i + 2 - 3i \\ & 15 + 3i \end{aligned}$$