

## COMPLEX NUMBERS WORKSHEET

1.  $(\underline{3} + \underline{5i}) + (\underline{4} - \underline{3i})$

$$7 + 2i$$

2.  $(\underline{11} - \underline{6i}) + \underline{7i}$

$$11 + i$$

3.  $(13 - 5i) - (7 - 11i)$   
 $\underline{13} - \underline{5i} - \underline{7} + \underline{11i}$

$$6 + 6i$$

4.  $17 - (5 - 6i)$   
 $\underline{17} - \underline{5} + 6i$

$$12 + 6i$$

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

$$12 - 4i$$

$$6. \quad 3i(7 - 2i)$$

$$21i - 6i^2$$

$$21i - 6(-1)$$

$$21i + 6$$

$$6 + 21i$$

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

$$(5)(7) + (5)(4i) + (-i)(7) + (-i)(4i)$$

$$35 + 20i - 7i - 4i^2$$

$$35 + 13i - 4(-1)$$

$$35 + 13i + 4$$

$$\boxed{39 + 13i}$$

$$8. \quad (7 + 5i)(7 - 5i)$$

$$(7)(7) + (7)(-5i) + (5i)(7) + (5i)(-5i)$$

$$49 - 35i + 35i - 25i^2$$

$$49 - 25(-1)$$

$$49 + 25$$

$$\boxed{74}$$

$$9. (5 + 7i)(7 - 5i)$$

$$\begin{array}{r} (5)(7) + (5)(-5i) + (7i)(7) + (7i)(-5i) \\ 35 \quad -25i \quad +49i \quad -35i^2 \\ 35 \quad \quad +24i \quad \quad -35(-1) \\ \underline{35} \quad \quad +24i \quad \quad +35 \\ \boxed{70 + 24i} \end{array}$$

$$10. \frac{12 - i}{5}$$

$$11. \left( \frac{2 - 3i}{2i} \right) \cdot \frac{i}{i}$$

$$\frac{2i - 3i^2}{2i^2}$$

$$\frac{2i - 3(-1)}{2(-1)}$$

$$\boxed{\frac{2i + 3}{-2}}$$

$$\frac{2i}{-2} + \frac{3}{-2}$$

$$12. \frac{5 + 6i}{2 - i}$$