

DIRECTIONS: Simplify. Remember  $\sqrt{-1} = i$ .

1.  $\sqrt{-81}$   
 $9i$

2.  $\sqrt{-121}$   
 $11i$

3.  $-4\sqrt{-36}$   
 $-24i$

4.  $-2\sqrt{-144}$   
 $-24i$

5.  $\sqrt{-20}$   
 $2i\sqrt{5}$

6.  $\sqrt{-75}$   
 $5i\sqrt{3}$

7.  $3\sqrt{-8}$   
 $6i\sqrt{2}$

8.  $5\sqrt{-27}$   
 $15i\sqrt{3}$

9.  $2i \cdot 3i$   
 $-6$

10.  $5i \cdot 3i$   
 $-15$

11.  $\sqrt{7} \cdot \sqrt{-7}$   
 $7i$

12.  $\sqrt{-6} \cdot \sqrt{2}$   
 $2i\sqrt{3}$

13.  $\sqrt{-5} \cdot \sqrt{-10}$   
 $-5\sqrt{2}$

14.  $\sqrt{-3} \cdot \sqrt{-6}$   
 $-3\sqrt{2}$

15.  $(7i)^2$   
 $-49$

16.  $(8i)^2$   
 $-64$

17.  $(-i)^2$   
 $-1$

18.  $(-5i)^2$   
 $-25$

19.  $(i\sqrt{2})^2$   
 $-2$

20.  $(3i\sqrt{5})^2$   
 $-45$

21.  $(-i\sqrt{3})^2$   
 $-3$

22.  $(-3i\sqrt{6})^2$   
 $-54$

23.  $-\frac{2}{i}$   
 $2i$

24.  $\frac{8}{3i}$   
 $-\frac{8i}{3}$

25.  $(3 - 4i) + (-5 - 2i)$   
 $-2 - 6i$

26.  $(6 - 4i) - (-4 + i)$   
 $10 - 5i$

27.  $2(-1 + 6i) - 3(2 + 5i)$   
 $-8 - 3i$

28.  $3i(5 - 6i)$   
 $18 + 15i$

$$29. -2i(1 - 3i) \\ -6 - 2i$$

$$30. (4 + i)(4 - i) \\ 17$$

$$31. (-5 + 3i)(2 - 3i) \\ -1 + 21i$$

$$32. (3 - 7i)(2 + 4i) \\ 34 - 2i$$

$$33. (3 + 4i)(-2 + 3i) \\ -18 + i$$

$$34. (2 - i\sqrt{3})(2 + i\sqrt{3}) \\ 7$$

$$35. (6 - 7i)^2 \\ -13 - 84i$$

$$36. (3 + i\sqrt{5})^2 \\ 4 + 6i\sqrt{5}$$

$$37. (2 - 3i)^2(2 + 3i)^2 \\ 169$$

$$38. (\sqrt{3} + \sqrt{-7})(\sqrt{3} - \sqrt{-7}) \\ 10$$

$$39. i(3 + i) \\ -1 + 3i$$

$$40. 4i(6 - i) \\ 4 + 24i$$

$$41. -10i(4 + 7i) \\ 70 - 40i$$

$$42. (5 + i)(8 + i) \\ 39 + 13i$$

$$43. (-1 + 2i)(11 - i) \\ -9 + 23i$$

$$44. (2 - 9i)(9 - 6i) \\ -36 - 93i$$

$$45. (7 + 5i)(7 - 5i) \\ 74$$

$$46. (3 + 10i)^2 \\ -91 + 60i$$