

Practice

Complex Numbers*Simplify.*

1. $\sqrt{-49}$

2. $\sqrt{-48}$

3. $6\sqrt{-12}$

4. $\sqrt{\frac{-16}{25}}$

5. $\sqrt{\frac{-2}{7}}$

6. $\sqrt{\frac{-8}{3}}$

7. i^{42}

8. i^{91}

9. $(7 - 6i) + (9 + 11i)$

10. $(5 + \sqrt{-8}) + (-13 + 4\sqrt{-2})$

11. $-6(2 - 8i) + 3(5 + 7i)$

12. $4(7 - i) - 5(2 - 6i)$

13. $(3 - 4i)^2$

14. $(\sqrt{5} + 2i)^2$

15. $(6 - 4i)(6 + 4i)$

16. $(8 - \sqrt{-11})(8 + \sqrt{-11})$

17. $5(2 + 3i) + 6(8 - 5i)$

18. $(4 + 3i)(2 - 5i)(4 - 3i)$

Solve each equation.

19. $n^2 + 25 = 0$

20. $m^2 + 10 = 0$

21. $6y^2 + 42 = 0$

22. $4r^2 + 64 = 0$

Find the values of x and y for which each equation is true.

23. $3x - 5yi = 15 - 20i$

24. $\sqrt{3}x + 7yi = 6 - 2i$