

Writing Complex Numbers in Standard Form (ALG.CN.03)

Write each power of i as i , $-i$, 1 , or -1 .

1. i^{21}

2. i^{36}

3. i^{47}

4. i^{62}

Simplify each expression by first rewriting each power of i .

5. $i^{37} + 3i^{25}$

6. $8i^{76} - 3i^{74}$

7. $2i^{17} + 5i^{31}$

8. $11i^{10} - 6i^{28}$

9. $5i^7 + 3i^{10}$

10. $-20i^6 - 13i^{21}$

Write each complex number in standard form.

11. $5 + \sqrt{-49}$

12. $15 - \sqrt{-144}$

13. $\frac{3}{4}\sqrt{-16}$

14. $\frac{\sqrt{-81}}{6}$

15. $-\sqrt{108} + \sqrt{-50}$

16. $5\sqrt{90} - 3\sqrt{-90}$

17. $\sqrt{-0.04}$

18. $\sqrt{-0.000169}$

19. $(\sqrt{-18})^3$

20. $(\sqrt{-3})^6$

21. $(2i^3)^5$

22. $(-4i^6)^3$