

4-4 Skills Practice

Simplify.

1. $\sqrt{-81x^6}$

2. $\sqrt{-23} \cdot \sqrt{-46}$

3. $(3i)(-2i)(5i)$

4. i^{11}

5. i^{65}

6. $(7 - 8i) + (-12 - 4i)$

7. $(-3 + 5i) + (18 - 7i)$

8. $(10 - 4i) - (7 + 3i)$

9. $(7 - 6i)(2 - 3i)$

10. $(3 + 4i)(3 - 4i)$

11. $\frac{8-6i}{3i}$

12. $\frac{3i}{4+2i}$

Solve each equation.

13. $3x^2 + 3 = 0$

14. $5x^2 + 125 = 0$

15. $4x^2 + 20 = 0$

16. $-x^2 - 16 = 0$

Find the values of ℓ and m that make each equation true.

17. $20 - 12i = 5\ell + (4m)i$

18. $\ell - 16i = 3 - (2m)i$

19. $(4 + \ell) + (2m)i = 9 + 14i$

20. $(3 - m) + (7\ell - 14)i = 1 + 7i$