

1. Simplify:  $\sqrt[3]{8a^3}$
2. Simplify:  $-\sqrt[5]{-\frac{1}{32}}$
3. Simplify:  $-\sqrt{-4}$
4. Simplify:  $\sqrt{(-9)^2}$
5. Simplify:  $\sqrt[3]{\frac{27}{1000}a^6b^9}$
6. Simplify:  $(81c^4)^{-\frac{3}{2}}$
7. Simplify:  $(-32p^5)^{-\frac{2}{5}}$
8. Simplify:  $\left(-\frac{8x^3}{27}\right)^{-\frac{1}{3}}$
9. Simplify:  $\sqrt[4]{25a}\sqrt[4]{25a^3}$
10. Simplify:  $\sqrt[3]{-81}$
11. Simplify:  $\sqrt[5]{96}$
12. Simplify:  $\sqrt{175a^2b^3}$
13. Simplify:  $\sqrt[5]{64x^{10}y^5}$
14. Simplify:  $\sqrt{3a}(\sqrt{27a^2} - \sqrt{a})$
15. Simplify:  $(\sqrt{x} - 3)^2$
16. Simplify:  $(7\sqrt{2y} + 2)(3\sqrt{2y} - 5)$
17. Simplify:  $(\sqrt{3p} - \sqrt{2})(\sqrt{3p} + \sqrt{2})$
18. Simplify:  $(\sqrt{2x} - 3\sqrt{y})(\sqrt{2x} + 3\sqrt{y})$
19. Simplify:  $\sqrt{36xy^2} + \sqrt{49xy^2}$
20. Simplify:  $2\sqrt{32x^2y^3} - xy\sqrt{98y}$
21. Simplify:  $3\sqrt[3]{x^5y^7} - 8xy\sqrt[3]{x^2y^4}$
22. Simplify:  $5a\sqrt{3a^3b} + 2a^2\sqrt{27ab} - 4\sqrt{75a^5b}$
23. State the domain of the function:  
 $f(x) = 2x\sqrt{x} - 3$
24. State the domain of the function:  
 $g(x) = -3\sqrt[3]{1+x}$
25. State the domain of the function:  
 $h(x) = \frac{2}{3}\sqrt[4]{(4-x)^3}$
26. State the domain of the function:  
 $j(x) = 4 - (3x - 3)^{\frac{2}{5}}$
27. Solve:  $\sqrt[4]{10p+1} = \sqrt[4]{11p-7}$
28. Solve:  $2\sqrt{x} = \sqrt{5x-16}$
29. Solve:  $\sqrt{y+2} = 4-y$
30. Solve:  $r - 9 = \sqrt{2r-3}$
31. Solve:  $-x - 3 = 2\sqrt{5-x}$
32. Solve:  $2 + \sqrt{u} = \sqrt{2u+7}$
33. Solve:  $\sqrt{6x+1} - 3\sqrt{x} = -1$
34. Solve:  $\sqrt{x-1} + \sqrt{x+2} = 3$

35. Simplify. Write in  $a + bi$  form.  
 $(3 + 4i) - (4 - 6i)$
36. Simplify. Write in  $a + bi$  form.  
 $(7 - 3i) - (4 + 2i)$
37. Simplify. Write in  $a + bi$  form.  
 $(1 + i) - 2i + (5 - 7i)$
38. Simplify. Write in  $a + bi$  form.  
 $(-8 - \sqrt{3}i) - (7 - 3\sqrt{3}i)$
39. Simplify. Write in  $a + bi$  form.  
 $-4i(3 + 4i)$
40. Simplify. Write in  $a + bi$  form.  
 $(2 + i\sqrt{2})(3 - i\sqrt{2})$
41. Simplify. Write in  $a + bi$  form.  
 $(2 - 4i)(3 + 2i)$
42. Simplify. Write in  $a + bi$  form.  
 $(2 + i)^2$
43. Simplify. Write in  $a + bi$  form.  
 $(2 + i)(2 - i)(1 + i)$