

Simplify each.

1. No Calculator $9^{3/2}$	2. No Calculator $8^{5/3}$	3. No Calculator $(-27)^{-2/3}$
4. No Calculator $(32)^{-4/5}$	5. No Calculator $\left(\frac{1}{81}\right)^{-3/4}$	6. $\left(\frac{64a^3b^6}{125y^9}\right)^{2/3}$
7. $\left(\frac{196b^6}{100a^4}\right)^{3/2}$	8. $\left(\frac{16m^4}{n^8}\right)^{3/4}$	9. $\sqrt[3]{\left(\frac{2ac^2}{d}\right)^2\left(\frac{16d^8}{a^5c}\right)}$
10. $\sqrt[3]{135m^6n^{11}}$	11. $\sqrt[3]{\sqrt{64x^{12}y^6}}$	12. $2r\sqrt{10r} \cdot 3y\sqrt{2ry^2}$

13. $\sqrt[4]{6m^2n} \cdot \sqrt[4]{8m^2n^2}$	14. $\sqrt[5]{81x^4y^2} \cdot \sqrt[5]{6x^2y^3}$	15. $\sqrt{\frac{98}{16}}$
16. $\frac{\sqrt{2a^2b^5}}{\sqrt{3a^7b^3}}$	17. $\sqrt[3]{\frac{10x^2}{9y}}$	18. $\frac{\sqrt[4]{176x^8y^{11}}}{\sqrt[3]{8y^3m^6}}$
19. $-\sqrt[4]{32} - \sqrt[4]{162}$	20. $-\sqrt{50x^3y^5} - 3xy\sqrt{8xy^3}$	21. $-2\sqrt{24b^5} + 3b\sqrt{54b^3} - 7b^2\sqrt{96b}$