



*Jedi create light, but the Sith do not create darkness.
They merely use the darkness that is always there.*

Evaluate the expression without using a calculator.

1. $8^{\frac{2}{3}}$

2. $32^{-\frac{3}{5}}$

3. $-(81)^{\frac{1}{4}}$

Write the expression in simplest form. Assume that all variables are positive.

4. $\frac{1}{4^{-\frac{1}{4}}}$

5. $\sqrt[4]{\frac{16}{3}}$

6. $\frac{512^{\frac{1}{3}}}{8^{\frac{1}{3}}}$

7. $\sqrt[3]{x^2} \bullet \sqrt[4]{x}$

8. $(x^5)^{\frac{5}{2}}$

9. $\frac{xy^{\frac{1}{2}}}{x^{\frac{3}{4}}y^{-2}}$

Solving Equations Using n^{th} Roots

1. $2x^4 = 162$

2. $(x-3)^2 = 10$

3. $-x^7 = 40$

4. $x^5 - 25 = 10$

5. $(x+12)^3 = 21$

6. $-12x^4 = -48$