

Simplifying Radicals

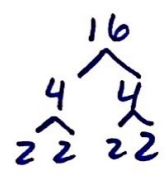
Simplify. Assume the variables represent real numbers.

1. $\sqrt{36x^3}$
 $6x\sqrt{x}$

2. $\sqrt[3]{125y^2z^4}$
 $5z\sqrt[3]{y^2z}$

3. $\sqrt{18k^6}$
 $\sqrt{3 \cdot 3 \cdot 2 k^6}$
 $3|k^3|\sqrt{2}$

4. $\sqrt[3]{-16a^{12}}$
 $\sqrt[3]{-2 \cdot 2 \cdot 2 \cdot 2 a^{12}}$
 $-2a^4\sqrt[3]{2}$

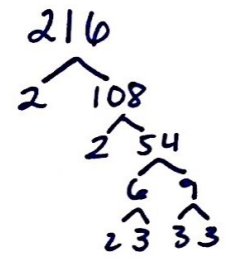


5. $\sqrt{x^2y^{10}z}$
 $|xy^5|\sqrt{z}$

6. $\sqrt[4]{256s^7t^{12}}$
 $4s|t^3|\sqrt[4]{s^3}$

7. $\sqrt{75r^3}$
 $\sqrt{5 \cdot 5 \cdot 3 r^3}$
 $5r\sqrt{3r}$

8. $\sqrt[3]{216x^4y^3}$
 $6xy\sqrt{x}$



9. $\sqrt[4]{625u^5v^8}$
 $5uv^2\sqrt[4]{u}$

10. $\sqrt[3]{24x^{10}y^3}$
 $\sqrt[3]{2 \cdot 2 \cdot 2 \cdot 3 x^{10} y^3}$
 $2x^3y\sqrt[3]{3x}$



11. $\sqrt[5]{96x^{12}y^{10}}$
 $\sqrt[5]{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 x^{12} y^{10}}$
 $2x^2y^2\sqrt[5]{3x^2}$

12. $\sqrt[4]{32x^6y^8z^{14}}$
 $\sqrt[4]{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 x^6 y^8 z^{14}}$
 $2x|y^2z^3|\sqrt[4]{2x^2z^2}$

