perfect squares: 1 4 9 16 25 36 49 64 81 100 121 144 169 196 225 256 289 324 361 400
perfect cubes: 1 8 27 64 125 216 343 512 729 1000

Principles of Algebra Name/Date Clee / Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 14D.2 – More Dividing Radicals

#1-6, Simplify each radical expression.

1. $\frac{\sqrt{15a^9b^3}}{\sqrt{3a^5b}}$

$= \sqrt{5a^4b^2}$

$= \boxed{a^2b\sqrt{5}}$

2. $\frac{\sqrt{42n^4}}{\sqrt{8n^5}}$

$= \frac{\sqrt{21}\cdot\sqrt{n}}{\sqrt{4n}\cdot\sqrt{n}}$

$= \frac{\sqrt{21n}}{\sqrt{4n^2}}$

$= \boxed{\frac{\sqrt{21n}}{2n}}$

3. $\frac{\sqrt[3]{6x^2y^4z^8}}{\sqrt[3]{48xz^{11}}}$

$= \frac{\sqrt[3]{xy^4}}{\sqrt[3]{8z^3}}$

$= \frac{\sqrt[3]{x\cdot y^3\cdot y}}{2z}$

$= \boxed{\frac{y\sqrt[3]{xy}}{2z}}$

4. $\frac{\sqrt{9d^8}}{\sqrt{12d^5}}$

$= \frac{\sqrt{3d^3}}{\sqrt{4}}$

$= \frac{\sqrt{3\cdot d^2\cdot d}}{2}$

$= \boxed{\frac{d\sqrt{3d}}{2}}$

5. $\frac{\sqrt{12j^5k^2}}{\sqrt{24j^2k^3}}$

$= \frac{\sqrt{j^3}\cdot\sqrt{2k}}{\sqrt{2k}\cdot\sqrt{2k}}$

$= \frac{\sqrt{2\cdot j^2\cdot jk}}{\sqrt{4k^2}}$

$= \boxed{\frac{j\sqrt{2jk}}{2k}}$

6. $\frac{\sqrt[3]{32m^7}}{\sqrt[3]{4m^8}}$

$= \frac{\sqrt[3]{8}\cdot\sqrt[3]{m^2}}{\sqrt[3]{m}\cdot\sqrt[3]{m^2}}$

$= \frac{2\sqrt[3]{m^2}}{\sqrt[3]{m^3}}$

$= \boxed{\frac{2\sqrt[3]{m^2}}{m}}$