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.1 – Dividing Radicals

#1-10, Simplify each radical expression.

1. $\sqrt{\frac{2}{11}} = \frac{\sqrt{2}\cdot\sqrt{11}}{\sqrt{11}\cdot\sqrt{11}} = \frac{\sqrt{22}}{\sqrt{121}} = \boxed{\frac{\sqrt{22}}{11}}$

2. $\frac{3\sqrt{8}}{\sqrt{3}}\cdot\frac{\sqrt{3}}{\sqrt{3}} = \frac{3\sqrt{24}}{\sqrt{9}} = \frac{3\sqrt{4\cdot6}}{3} = \boxed{2\sqrt{6}}$

3. $\frac{-6\sqrt{90}}{2\sqrt{10}} = \frac{-3\sqrt{9}}{1} = \boxed{-9}$

4. $\sqrt{\frac{24c^7}{6c}} = \sqrt{4c^6} = \boxed{2c^3}$

5. $\sqrt{\frac{8}{n^3}} = \frac{\sqrt{8}\cdot\sqrt{n}}{\sqrt{n^3}\cdot\sqrt{n}} = \frac{\sqrt{4\cdot2\cdot n}}{\sqrt{n^4}} = \boxed{\frac{2\sqrt{2n}}{n^2}}$

6. $\sqrt{\frac{56a^5b^4}{7ab}} = \sqrt{8a^4b^3} = \sqrt{4\cdot2\cdot a^4\cdot b^2\cdot b} = \boxed{2a^2b\sqrt{2b}}$

7. $\sqrt{\frac{5m}{32}} = \frac{\sqrt{5m}}{\sqrt{32}}\cdot\frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{10m}}{\sqrt{64}} = \boxed{\frac{\sqrt{10m}}{8}}$

8. $\frac{1}{\sqrt[3]{9x}}\cdot\frac{\sqrt[3]{3x^2}}{\sqrt[3]{3x^2}} = \frac{\sqrt[3]{3x^2}}{\sqrt[3]{27x^3}} = \boxed{\frac{\sqrt[3]{3x^2}}{3x}}$

9. $\frac{8\sqrt[3]{14}}{12\sqrt[3]{7x^2y}} = \frac{2\sqrt[3]{2}}{3\sqrt[3]{x^2y}}\cdot\frac{\sqrt[3]{xy^2}}{\sqrt[3]{xy^2}} = \frac{2\sqrt[3]{2xy^2}}{3\sqrt[3]{x^3y^3}} = \boxed{\frac{2\sqrt[3]{2xy^2}}{3xy}}$

10. $\frac{4+\sqrt{5}}{\sqrt{72}}\cdot\frac{\sqrt{2}}{\sqrt{2}} = \frac{4\sqrt{2}+\sqrt{10}}{\sqrt{144}} = \boxed{\frac{4\sqrt{2}+\sqrt{10}}{12}}$