Perfect Squares: 1 4 9 16 25 36 49 64 81 100 121 144 169 196 225 256 289 324 361 400 (and then infinitely more of them)

Principles of Algebra all even exponents Name/Date Clee/Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 14A.2 - More Simplifying Irrational Radicals

#1-14, Simplify each radical expression.

1. $\sqrt{48} = \sqrt{16 \cdot 3} = \boxed{4\sqrt{3}}$

2. $\sqrt{54} = \sqrt{9 \cdot 6} = \boxed{3\sqrt{6}}$

3. $\sqrt{150} = \sqrt{25 \cdot 6} = \boxed{5\sqrt{6}}$

4. $\sqrt{1000} = \sqrt{100 \cdot 10} = \boxed{10\sqrt{10}}$

5. $\sqrt{400z^{12}} = \sqrt{400 \cdot z^{12}} = \boxed{20z^6}$

6. $\sqrt{125n^4} = \sqrt{25 \cdot 5 \cdot n^2} = \boxed{5n^2\sqrt{5}}$

7. $\sqrt{600g^{25}} = \sqrt{100 \cdot 6 \cdot g^{24} \cdot g} = \boxed{10g^{12}\sqrt{6g}}$

8. $\sqrt{12d^{12}} = \sqrt{4 \cdot 3 \cdot d^{12}} = \boxed{2d^6\sqrt{3}}$

9. $\sqrt{15d^7} = \sqrt{15 \cdot d^6 \cdot d} = \boxed{d^3\sqrt{15d}}$

10. $-\sqrt{242a^{16}} = -\sqrt{121 \cdot 2 \cdot a^{16}} = \boxed{-11a^8\sqrt{2}}$

11. $\sqrt{9x^4y} = \sqrt{9 \cdot x^4 \cdot y} = \boxed{3x^2\sqrt{y}}$

12. $\sqrt{27p^{20}q^{21}} = \sqrt{9 \cdot 3 \cdot p^{20} \cdot q^{20} \cdot q} = \boxed{3p^{10}q^{10}\sqrt{3q}}$

13. $\sqrt{48x^{13}} = \sqrt{16 \cdot 3 \cdot x^{12} \cdot x} = \boxed{4x^6\sqrt{3x}}$

14. $\sqrt{72a^{17}b^2c^3} = \sqrt{36 \cdot 2 \cdot a^{16} \cdot a \cdot b^2 \cdot c^2 \cdot c} = \boxed{6a^8bc\sqrt{2ac}}$