Algebra 2
Section 6.1

Name:_____
Period: _____

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. $\sqrt{18k^6}$

$\sqrt{3\cdot3\cdot2\,k^6}$

$3|k^3|\sqrt{2}$

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

$\sqrt[3]{-2\cdot2\cdot2\cdot2\,a^{12}}$

$-2a^4\sqrt[3]{2}$

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

$|xy^5|\sqrt{z}$

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

$4s|t^3|\sqrt[4]{s^3}$

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

$\sqrt{5\cdot5\cdot3r^3}$

$5r\sqrt{3r}$

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

$6xy\sqrt{x}$

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

$5uv^2\sqrt[4]{u}$

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

$\sqrt[3]{2\cdot2\cdot2\cdot3\,x^{10}y^3}$

$2x^3y\sqrt[3]{3x}$

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

$\sqrt[5]{2\cdot2\cdot2\cdot2\cdot2\cdot3x^{12}y^{10}}$

$2x^2y^2\sqrt[5]{3x^2}$

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

$\sqrt[4]{2\cdot2\cdot2\cdot2\,2\,x^6y^8z^{14}}$

$2x|y^2z^3|\sqrt[4]{2x^2z^2}$