

Algebra II
Exponents #5

Name _____

Simplify the following. Don't use your calculator or use it for arithmetic only.

1. $\sqrt[3]{16} \cdot \sqrt[3]{4}$

2. $\frac{\sqrt{2}}{\sqrt{32}}$

3. $\sqrt[5]{288}$

4. $8\sqrt[6]{5} - 12\sqrt[6]{5}$

5. $13\left(8^{\frac{3}{4}}\right) + 4\left(8^{\frac{3}{4}}\right)$

6. $27\sqrt{6} + 7\sqrt{54}$

7. $\left(5^{\frac{1}{4}}\right) + 6\left(80^{\frac{1}{4}}\right)$

8. $3\sqrt[3]{5y^3} \cdot 2\sqrt[3]{50y^4}$

9. $3\sqrt[4]{8a^9} \cdot \sqrt[4]{2b^5}$

10. $\frac{\sqrt[4]{v^6}}{\sqrt[2]{v^5}}$

11. $\sqrt{\frac{405x^3y^3}{5x^{-1}y}}$

12. $12\sqrt[3]{y} + 9\sqrt[3]{y}$

13. $\frac{7x^{-\frac{3}{4}}y^{\frac{5}{2}}z^{-\frac{2}{3}}}{56x^{-\frac{1}{2}}y^4}$

14. $(\sqrt{3} + \sqrt{5})^2$

15. $\left(p^{\frac{1}{2}} \cdot p^{\frac{1}{4}}\right) - \sqrt[4]{16p^3}$

16. $\sqrt[4]{16w^{10}} + 2w\sqrt[4]{w^6}$