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Algebra II

### *Given Radicals*

**Express the following without using radicals:**

1.  $\sqrt{x^2 y^5}$

2.  $\sqrt[3]{27x^6 y^8}$

3.  $(\sqrt{25x^3 y^4})^3$

4.  $(\sqrt[4]{16x^5 y^8})^{-1}$

5.  $\sqrt[3]{\frac{a^6 b^9}{-64}}$

6.  $\sqrt[4]{\frac{x^7 y^{12}}{81}}$

7.  $\sqrt[3]{\frac{x^{-6} y^{12}}{27z^{-9}}}$

8.  $\sqrt{\frac{64m^{-2} n^5}{25z^{-8}}}$

$$9. \sqrt[5]{\frac{x^{-10}y^7}{z^{-8}}}$$

$$10. \sqrt[4]{\frac{x^{-12}z^7}{16y^{-5}}}$$

11. The expression  $\sqrt[4]{16x^2y^7}$  is equivalent to

- 1)  $2x^{\frac{1}{2}}y^{\frac{7}{4}}$
- 2)  $2x^8y^{28}$
- 3)  $4x^{\frac{1}{2}}y^{\frac{7}{4}}$
- 4)  $4x^8y^{28}$

12. The expression  $\sqrt[4]{81x^2y^5}$  is equivalent to

- 1)  $3x^{\frac{1}{2}}y^{\frac{5}{4}}$
- 2)  $3x^{\frac{1}{2}}y^{\frac{4}{5}}$
- 3)  $9xy^{\frac{5}{2}}$
- 4)  $9xy^{\frac{2}{5}}$

13. Which expression is equivalent to  $(\sqrt{a^2b^{\frac{1}{2}}})^{-1}$ ?

- |                             |                                  |
|-----------------------------|----------------------------------|
| (1) $a^{-2}b^{\frac{1}{2}}$ | (3) $-ab^2$                      |
| (2) $-ab^{\frac{1}{4}}$     | (4) $\frac{1}{ab^{\frac{1}{4}}}$ |