

Name _____
Mr. Schlansky

Date _____
Algebra II

Given Radicals

1. Express the following without using radicals:

a) $\sqrt{x^2 y^5}$

b) $\sqrt[3]{27x^6 y^8}$

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

d) $(\sqrt[4]{4x^5 y^8})^{-2}$

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

1) $2x^{\frac{1}{2}} y^{\frac{7}{4}}$

2) $2x^8 y^{28}$

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

4) $4x^8 y^{28}$

3. The expression $\sqrt[4]{81x^2 y^5}$ 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) $9xy^{\frac{2}{5}}$

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

(1) $a^{-2} b^{\frac{1}{2}}$

(3) $-ab^2$

(2) $-ab^{\frac{1}{4}}$

(4) $\frac{1}{ab^{\frac{1}{4}}}$

5. Express in simplest form:

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

6. Express in simplest form:

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

7. Express in simplest form:

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

8. Express in simplest form:

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

9. Express in simplest form:

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