Math 2 Name_____ ID: 1

Rational and Radicals

Date_____ Period____

Simplify. Your answer should contain only positive exponents.

1) $\dfrac{-b^0 \cdot \left(b^4\right)^{-2}}{-a^5 b^3}$

2) $\dfrac{\left(xy^4\right)^{-3} \cdot x^3}{x^{-3} y^{-4}}$

Simplify.

3) $\sqrt{144n^4}$

4) $\sqrt{128x^3}$

Write each expression in exponential form.

5) $\left(\sqrt[6]{2x}\right)^5$

6) $\left(\sqrt[4]{p}\right)^7$

7) $\sqrt[3]{x^2}$

8) $\sqrt{k}$

Write each expression in radical form.

9) $(5x)^{\frac{1}{2}}$

10) $(5n)^{\frac{5}{2}}$

11) $(3a)^{\frac{2}{3}}$

12) $a^{\frac{5}{2}}$

Math 2 Name_____ ID: 1

Rational and Radicals

Date_____ Period____

Simplify. Your answer should contain only positive exponents.

1) $\dfrac{-b^0 \cdot (b^4)^{-2}}{-a^5 b^3}$

$\dfrac{1}{b^{11}a^5}$

2) $\dfrac{(xy^4)^{-3} \cdot x^3}{x^{-3}y^{-4}}$

$\dfrac{x^3}{y^8}$

Simplify.

3) $\sqrt{144n^4}$

$12n^2$

4) $\sqrt{128x^3}$

$8x\sqrt{2x}$

Write each expression in exponential form.

5) $(\sqrt[6]{2x})^5$

$(2x)^{\frac{5}{6}}$

6) $(\sqrt[4]{p})^7$

$p^{\frac{7}{4}}$

7) $\sqrt[3]{x^2}$

$(x^2)^{\frac{1}{3}}$

8) $\sqrt{k}$

$k^{\frac{1}{2}}$

Write each expression in radical form.

9) $(5x)^{\frac{1}{2}}$

$\sqrt{5x}$

10) $(5n)^{\frac{5}{2}}$

$(\sqrt{5n})^5$

11) $(3a)^{\frac{2}{3}}$

$(\sqrt[3]{3a})^2$

12) $a^{\frac{5}{2}}$

$(\sqrt{a})^5$