

Rational and Radicals

Date _____ Period _____

Simplify. Your answer should contain only positive exponents.

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

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

Simplify.

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

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

Write each expression in exponential form.

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

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

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