

Exponents Test #2

Date _____ Period _____

Simplify.

1) $2u^4v^2 \cdot -3u^5v^4$

2) $(4xy^3)^5$

3) $\frac{4a^3b^5}{3a^4b^5}$

4) $(x^3y^6 \cdot x^6y^5)^2$

5) $\left(\frac{x^3y^2}{x^4y^4}\right)^3$

6) $-\frac{5a^5b^5 \cdot -3ab^5}{6a^6b^5}$

Simplify. Your answer should contain only positive exponents.

7) $-4y^5 \cdot 3x^{-2}y^6$

8) $(2m^{-1}n^{-5})^5$

9) $\frac{-m^4n^2}{-5m^2n^{-3}}$

10) $(yx^{-3})^6 \cdot (x^3y^{-4})^3$

Simplify.

11) $\sqrt[4]{112}$

Write each expression in radical form.

12) $3^{-\frac{4}{5}}$

Write each expression in exponential form.

13) $(\sqrt[3]{5})^5$

Simplify.

14) $25^{\frac{3}{2}}$

15) $64^{-\frac{3}{2}}$

Exponents Test #2

Date _____ Period _____

Simplify.

1) $2u^4v^2 \cdot -3u^5v^4$
 $-6u^9v^6$

2) $(4xy^3)^5$
 $1024x^5y^{15}$

3) $\frac{4a^3b^5}{3a^4b^5}$
 $\frac{4}{3a}$

4) $(x^3y^6 \cdot x^6y^5)^2$
 $x^{18}y^{22}$

5) $\left(\frac{x^3y^2}{x^4y^4}\right)^3$
 $\frac{1}{x^3y^6}$

6) $-\frac{5a^5b^5 \cdot -3ab^5}{6a^6b^5}$
 $\frac{5b^5}{2}$

Simplify. Your answer should contain only positive exponents.

7) $-4y^5 \cdot 3x^{-2}y^6$
 $-\frac{12y^{11}}{x^2}$

8) $(2m^{-1}n^{-5})^5$
 $\frac{32}{m^5n^{25}}$

9) $\frac{-m^4n^2}{-5m^2n^{-3}}$
 $\frac{n^5m^2}{5}$

10) $(yx^{-3})^6 \cdot (x^3y^{-4})^3$
 $\frac{1}{x^9y^6}$

Simplify.

11) $\sqrt[4]{112}$
 $2\sqrt[4]{7}$

Write each expression in radical form.

12) $3^{-\frac{4}{5}} \frac{1}{(\sqrt[5]{3})^4}$

Write each expression in exponential form.

13) $(\sqrt[3]{5})^5$
 $5^{\frac{5}{3}}$

Simplify.

14) $25^{\frac{3}{2}}$
 125

15) $64^{-\frac{3}{2}}$
 $\frac{1}{512}$