

Name: _____

Date: _____ Score: _____

Laws of Exponents Worksheet

Simplify using product of power rule

1 $y^{40}y^{20}$

2 $3x^2 \cdot 2y^4$

3 $(3abc)(2a^2b)$

Simplify using quotient of powers rule

4 $\frac{x^4y^7}{x^3y^3}$

5 $\frac{a^{10}b^{20}}{a^2b^{10}}$

6 $\frac{52a^{10}b^2}{5ab^2}$

Simplify using negative and zero exponent rule

7 $(-2)^0$

8 $(-3)^{-4}$

9 $\frac{1}{4^{-2}}$

Simplify using power rule

10 $(4x^2)^6$

11 $(6x^2y^4)^2$

12 $(x^{-4})^{-4}$

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Answers

1 $y^{40}y^{20}$

2 $3x^2 \cdot 2y^4$

3 $(3abc)(2a^2b)$

y^{60}

$6x^2y^4$

$6a^3b^2c$

4 $\frac{x^4y^7}{x^3y^3}$

5 $\frac{a^{10}b^{20}}{a^2b^{10}}$

6 $\frac{52a^{10}b^2}{5ab^2}$

xy^4

a^8b^{10}

$\frac{52a^9}{5}$

7 $(-2)^0$

8 $(-3)^{-4}$

9 $\frac{1}{4^{-2}}$

1

$-\frac{1}{81}$

16

10 $(4x^2)^6$

11 $(6x^2y^4)^2$

12 $(x^{-4})^{-4}$

$4096x^{12}$

$36x^4y^8$

x^{16}