

Name: .....

Date: ..... Score: .....

## Powers and Exponents Worksheet

Simplify

1  $(7a^4)^2$

2  $(8xy^4)^2$

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

4  $\frac{11^8}{11^5}$

5  $(-3)^{-3}$

6  $(-2)^{12} \div (-3)^{-2}$

7  $\left(-\frac{1}{2}\right)^{-3}$

8  $(-3)^{-7} \times (-3)^{-2}$

9  $\frac{x^0y^{-3}}{z^2}$

10  $(12x^2y^{-5})^0$

11  $\frac{2x^{-3}y^2}{4x^{-4}y^{-1}}$

12  $\left(\frac{-7a^2b^3c^0}{3a^3b^4c^3}\right)^{-4}$

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## Powers and Exponents Worksheet

### Answers

1  $(7a^4)^2$

$49a^8$

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

$a^4b^4$

5  $(-3)^{-3}$

$-\frac{1}{27}$

7  $(-\frac{1}{2})^{-3}$

-8

9  $\frac{x^0y^{-3}}{z^2}$

$y^{-3}z^{-2}$

11  $\frac{2x^{-3}y^2}{4x^{-4}y^{-1}}$

$\frac{xy^3}{2}$

2  $(8xy^4)^2$

$64x^2y^8$

4  $\frac{11^8}{11^5}$

1331

6  $(-2)^{12} \div (-3)^{-2}$

36864

8  $(-3)^{-7} \times (-3)^{-2}$

$-\frac{1}{19683}$

10  $(12x^2y^{-5})^0$

1

12  $(\frac{-7a^2b^3c^0}{3a^3b^4c^3})^{-4}$

$\frac{81a^4b^4c^{12}}{2401}$