MATHEMATICS
GRADE 9

Name: _____ No. ___ Grade 9/___

LAWS OF EXPONENTS

Simplify.

1. $4x^3 \cdot 2x^3 = \quad 8x^6$

2. $x^5 \cdot x^3 = \quad x^8$

3. $2x^3 \cdot 2x^2 = \quad 4x^5$

4. $\frac{6^5}{6^3} = 36$

5. $\frac{x^4}{x^7} = \frac{1}{x^3}$

6. $8^0 = 1$

7. $\frac{6x^7}{2x^4} = 3x^3$

8. $\frac{x^2y^5}{xy^4} = xy$

LIVEWORKSHEETS

9. $\frac{1}{x^{-5}} = \frac{1}{\frac{1}{x^5}} = \frac{1}{1} \cdot \frac{x^5}{1} = x^5$

10. $\frac{24x^6}{12x^{-8}} = 2x^{14}$

11. $(\frac{4x^5y}{16xy^4})^3 = \left(\frac{4^3x^{15}y^3}{16^3x^3y^{12}}\right) = \frac{64x^{15}y^3}{4096x^3y^{12}} = \frac{x^{12}}{64y^9}$

12. $(2fg^4)^4(fg)^6 = (2^4f^4g^{16})(f^6g^6) = 16f^{10}g^{22}$

13. $(7a^3b^{-1})^0 = 1$

14. $(\frac{2x}{3y^2})^3 = \frac{(2x)^3}{(3y^2)^3} = \frac{2^3x^3}{3^3y^6} = \frac{8x^3}{27y^6}$

15. $(x^2y)(x^3y^4) = x^5y^5$

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LIVEWORKSHEETS