

2/27/15

"5.1 test rev. new"

Algebra 2: Chapter 5
Laws of Exponents Test Review

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Simplify the following. No negative exponents or decimals in final answers.

1. $x^9 \cdot x^4 \cdot x = x^6$

2. $(-2n^4)^3 = -8n^{12}$

3. $\frac{15r^7t^4}{-9rt^6} = \frac{5r^6}{-3t^2}$

4. $(3a^4c^2)^2(2ac^4) =$
 $9a^8c^4 \cdot 2ac^4$
 $18a^9c^8$

5. $\frac{(-2xy^4)^2}{(3x^{-2}y^3)^2} =$
 $\frac{4x^2y^8}{9x^{-4}y^6}$
 $\frac{4x^6y^2}{9}$

6. $(4e^{-8}f^{-3})(-2e^2f^4)^3 =$
 $4e^{-8}f^{-3} \cdot -8e^6f^{12}$
 $-32e^{-2}f^9$
 $\frac{-32f^9}{e^2}$

7. $\frac{(3g^2h^3)^2}{(7g^{-3}h)^2} = \frac{9g^4h^6}{49g^{-6}h^2}$

$$\frac{9g^{10}h^4}{49}$$

8. $\frac{(3x^2y)(5x^{-4}y^2)}{(2xy^3)(4x^{-5}y^6)} =$
 $\frac{15x^{-2}y^3}{8x^{-4}y^9}$

$$\frac{15x^4y^3}{8x^2y^9} = \frac{15x^2}{8y^6}$$

9. $(2m^{-3}n^{-2}p^5)^4(5m^3n^6p^4)^2 =$
 $16m^{-12}n^{-8}p^{20} \cdot 25m^6n^{12}p^8$
 $400m^{-6}n^4p^{28}$

$$\frac{400n^4p^{28}}{m^6}$$

10. $\frac{(x^5y^3)^4}{(-3x^4y^5)^3} =$

$$\frac{x^{20}y^{12}}{-27x^{12}y^{15}}$$

$$\frac{x^8}{-27y^3}$$

11. $\frac{(2t^{-4}v^3)^2}{(4tv^3)^2(3t^{-8}v)} =$

$$\frac{4t^{-8}v^6}{16t^2v^6 \cdot 3t^{-8}v}$$

$$\frac{4t^{-8}v^6}{48t^{-6}v^7} = \frac{1}{12t^2v}$$

12. $(-9x^{-3}y)^2(4x^3y^{-2})^2 =$

$$81x^{-6}y^2 \cdot 16x^6y^{-4}$$

 $1296y^{-2}$

$$\frac{1296}{y^2}$$