

Name: _____

Score: _____

Exponent Rules

Algebra: M2

Use laws of exponents and simplify. Write your answers in positive exponents.

1) $\left(\frac{p^{-7}q^2}{p^2q^{-8}}\right)^2$

2) $(a^{-2}b)^{-3}(ab^{-7})$

3) $\left(\frac{-6u^{-5}v^2}{-2u^4n^3}\right)^2$

4) $(-8m^{-3}n^2)(2m^5$

$\frac{2y^3}{y^2})(-2x^{-8}y^{-2})$

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7) $\left(\frac{-9mn^{-3}}{3m^4n^{-5}}\right)^2$

$s^{-5})\left(\frac{r^7s^{-5}}{2r^{-4}s^7}\right)$

10) $\frac{6l^7m^{-3}}{(l^5m^{-2})(2lm^3)}$

$b^4)(2bc^{-3})^2(-3c^4)^3$

13) $\frac{(4l^3m^{-2})(2m^{-3}n^5)}{8n^7}$

14) $\left(\frac{9p^2q^{-3}}{27pq^3r^{-2}}\right)^2$

15) $(-8x^2y)(y^3z^{-2})^{-2}(2x^{-3}y^2)^3$

Name: _____

Answer key

Score: _____

Exponent Rules

Algebra: M2

1) $\left(\frac{p^{-7}q^2}{p^2q^{-8}}\right)^2$

$$= \frac{q^{20}}{p^{18}}$$

2) $(a^{-2}b)^{-3}(ab^{-7})$

$$= \frac{a^7}{b^{10}}$$

3) $\left(\frac{-6u^{-5}v^2}{-2u^4n^3}\right)^2$

$$= \frac{9}{u^{18}v^2}$$

4) $(-8m^{-3}n^2)(2m^5n^3)$

$$= -64m^{12}n^5$$

5) $(5r^{-2})(2r^{-6})$

6) $\left(\frac{-3x^2y^3}{y^2}\right)(-2x^{-8}y^{-2})$

7) $\left(\frac{-9mn^{-3}}{3m^4n^{-5}}\right)^2$

$$= \frac{9n^4}{m^6}$$

10) $\frac{6l^7m^{-3}}{(l^5m^{-2})(2lm^3)}$

$$= \frac{6l}{m^4}$$

13) $\frac{(4l^3m^{-2})(2m^{-3}n^5)}{8n^7}$

$$= \frac{l^3}{m^5n^2}$$

14) $\left(\frac{9p^2q^{-3}}{27pq^3r^{-2}}\right)^2$

$$= \frac{p^2r^4}{9q^{12}}$$

15) $(-8x^2y)(y^3z^{-2})^{-2}(2x^{-3}y^2)^3$

$$= \frac{-64yz^4}{x^7}$$

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