Unit 2 4.3 **Exponent Properties (Power to a Power)**

Warm-Up/Review:

1. $\frac{18x^6y^{19}}{24xy^{10}}$
2. $(-2x^3y^4)(5y^7)$
3. $\frac{(x^2y^8z)(6x^5yz^9)}{20x^2y^3z^4}$

Using the definition of exponents, what happens when **bases** are **raised to another power**…

Examples (Power to a Power):

$(2^3)^4$	$(x^4)^2$	$(x^5y^2)^3$

Can you generalize what has happened?

Using what you just learned, what happens when different bases are being divided and raised to a power?

$\left(\frac{a^3}{b^5}\right)^2$	$\left(\frac{c^2}{d}\right)^9$	$\left(\frac{f^3g^2}{k^4}\right)^5$

Does it change the rule?

What about coefficients?! What do we do with those?!

$(6x^4)^3$	$(9a^2b^4)^2$	$(7cd^2)^3$
$\left(\frac{3n^4}{m^5}\right)^4$	$\left(\frac{4x^3y^2}{z^8}\right)^3$	$\left(\frac{2f^3g^2}{5k^4}\right)^5$

Unit 2 4.3p **Power to a Power**

1. $(3x^5yz^9)^5$	2. $\left(\frac{b^3}{c^5}\right)^4$	3. $(8j^3)^3$
4. $\left(\frac{2x}{3y^2}\right)^{12}$	5. $(10w^4xyz^2)^2$	6. Challenge: $\left(\frac{(-2x)^2}{3xy^2}\right)^3$