16.2 – Laws of Exponents II

$\frac{a^m}{a^n} = a^{m-n}$	$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}, b \neq 0$
D Divide	S Subtract

Evaluate the following.

1. $\frac{(4)^3}{(4)^2} = 4^{3-2} = 4^1 = 4$	2. $\frac{8^9}{8^3 \cdot 8^5} = \frac{8^9}{8^8} = 8^{9-8} = 8^1 = 8$

Simplify the following.

3. $\frac{m^7}{m^4} = m^{7-4} = m^3$	4. $\frac{x^5}{x^3} = x^{5-3} = x^2$
5. $\left(\frac{r^3}{s^2}\right)^4 = \frac{r^{12}}{s^8}$	6. $\frac{4^y}{4^6} = 4^{y-6}$

Use the laws of exponents to solve the following equation.

7. $\frac{3^x}{3^2} = 3^8$

$3^{x-2} = 3^8$

$x-2 = 8$

$x = 10$