### Lesson 1 Practice Problems

1. Find the value of each variable that makes the equation true.
	1. $2^{5}⋅2^{3}=2^{a}$
	2. $\frac{7^{4}}{7^{b}}=7^{-2}$
	3. $8^{c}=\frac{1}{64}$
2. Select **all** the expressions equivalent to $7^{-2}⋅7^{5}⋅7^{-3}$.
	1. $0$
	2. $1$
	3. $\frac{1}{7}$
	4. $7^{0}$
	5. $7^{10}$
3. Which expression is equal to $\frac{3^{8}}{3^{2}}$?
	1. $1^{6}$
	2. $3^{-6}$
	3. $3^{4}$
	4. $3^{6}$
4. Find the value of each variable that makes the equation true.
	1. $\frac{5^{6}}{5^{m}}=5^{9}$
	2. $2^{3}⋅4^{n}=2^{11}$
	3. $\left(7^{4}\right)^{k}=7^{-8}$
	4. Evaluate the expression $\frac{6^{3}}{6^{3}}$.
	5. Explain how this helps show why $6^{0}=1$.



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