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THE MATH EXPERT

# 8th Grade Exponents Worksheets

**Questions**

Q1. Simplify the following:

a. $-3^3$

b. $\left(\frac{3x}{2y}\right)^3$

Q2. Simplify the following:

a. $\left(3^0-5^0\right)\div\left(4^0+2^0\right)$

b. $x^0\times y^0$

Q3. Simplify the following and express the answer in terms of positive exponent.

a. $((-3)^2)^3$

b. $\left(\left(-\frac{2}{5}\right)^3\right)^{-2}$

Q4. The revenue function of a retail store is modelled by the equation $R=0.3x^3+5$ (in hundreds of dollars), where $x$ is the number of years after it is opened. Find the revenue earned in 5 years.

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Q5. Simplify the following and express the answer as an exponent.

a. $\left(\frac{1}{3}\right)^5 \cdot \left(\frac{1}{7}\right)^5$

b. $\left(\frac{1}{2}\right)^5 \cdot \left(\frac{1}{2}\right)^7$

Q6. Use the properties of exponents to simplify the following. Write the answers in terms of positive exponents.

a. $(-3)^5 \div (-3)^8$

b. $\left(2^{-7} \div 2^{-10}\right) \times 2^{-5}$

Q7. Simplify the following using multiple properties of exponents and express the answer as a number.

$$\frac{(-5)^7}{(-5)^2} \cdot \frac{(-5)^3}{(-5)^8}$$

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