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THE MATH EXPERT

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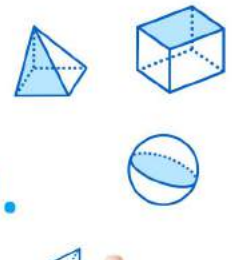

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EXPONENT RULES WORKSHEET

1) Simplify the following exponents:
Simplify:
a) $(-2)^7$
b) $(-5)^2$

2) Simplify:
a) $(-3)^0$
b) $\left(\frac{-2}{5}\right)^0$

3) Simplify the following and express the answer in terms of positive exponent.
a) $((-3)^2)^3$
b) $\left(\left(-\frac{2}{5}\right)^3\right)^{-2}$

4) 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.

5) Write the following as a single exponent using properties of exponents.

$(-3)^2 \times (-3)^5$

6) Simplify the following and express the answer as an exponent.

$\left(x^2\right)^3 \times x^5$

7) Use the properties of exponents to simplify the following.

$$\frac{(-5.2)^{12}}{(-5.2)^8 \cdot (-5.2)^3}$$

8) A laptop's storage is shown below. Also, the conversion from gigabytes to bytes is shown. Use this information to find the laptop's storage in bytes. Express your answer as an exponent.

Total storage: 32 gigabytes

1 gigabytes = 2^{30} bytes

9) Simplify $\dfrac{1.5 \times 10^{-6}}{2.5 \times 10^8}$ and express the answer in scientific notation.

10) Simplify the following and express the answer in scientific notation.

$\left(3.2\times10^{7}\right)\times\left(7.5\times10^{-3}\right)$

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Why choose Cuemath?

"Cuemath is a valuable addition to our family. We love solving puzzle cards. My daughter is now visualizing maths and solving problems effectively!"

- Gary Schwartz

"Cuemath is great because my son has a one-on-one interaction with the teacher. The instructor has developed his confidence and I can see progress in his work. One-on-one interaction is perfect and a great bonus."

- Kirk Riley

"I appreciate the effort that miss Nitya puts in to help my daughter understand the best methods and to explain why she got a problem incorrect. She is extremely patient and generous with Miranda."

- Barbara Cabrera

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ANSWERS

1)	a) -128 b) 25
2)	a) 1 b) 1
3)	a) 3^6 b) $\left(\frac{5}{2}\right)^6$
4)	42.5 hundreds of dollars
5)	$(-3)^7$
6)	x^{11}
7)	-5.2
8)	2^{35} bytes
9)	6×10^{-15}
10)	2.4×10^5

FUN FACT

The laws that are used to multiply the exponents are:

1. $a^m \times a^n = a^{m+n}$
2. $(a^m)^n = a^{mn}$
3. $a^m \times b^m = (ab)^m$