

Laws of Exponents

A. Choose the Correct Answer:

1. According to the law of exponents, $a^m \times a^n$ equals:

- a) a^{m+n}
- b) a^{m-n}
- c) a^{mn}
- d) $a^{m/n}$

2. The value of $(2^3)^4$ is:

- a) 2^{12}
- b) 2^7
- c) 2^{16}
- d) 6^3

3. According to the law of exponents, $(a^m)^n =$

- a) a^{m-n}
- b) a^{m+n}
- c) a^{mn}
- d) $(a^n)^m$

4. Which of the following is correct for $(ab)^n$?

- a) $a^n + b^n$
- b) $a^n b$
- c) $a^n b^n$
- d) $(ab)^{n+1}$

5. a^0 is equal to:

- a) 0
- b) 1
- c) a
- d) -1

B. Write the Missing Terms to Complete the Sentences:

1. $a^m \times a^n = a^?$

2. $(a^m)^n = a^?$

3. $(ab)^m = a^m \times \underline{\hspace{2cm}}$

4. $a^0 = \underline{\hspace{2cm}}$

5. $a^m \div a^n = a^?$

C. Figure out the answers to these questions:

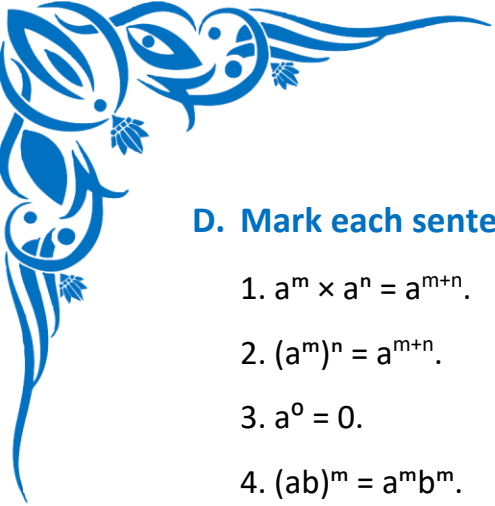
1. Simplify $3^2 \times 3^4$

2. Find the value of $(5^3)^2$

3. Simplify $\left(\frac{2}{5}\right)^3 \times \left(\frac{5}{2}\right)^3$

4. Evaluate $(4^2)^3$

5. Simplify $\frac{7^3}{7^2}$



D. Mark each sentence with a True (✓) or False (X):

1. $a^m \times a^n = a^{m+n}$.

2. $(a^m)^n = a^{m+n}$.

3. $a^0 = 0$.

4. $(ab)^m = a^m b^m$.

5. $a^m \div a^n = a^{m-n}$.

E. Challenge yourself with these questions:

1. Find the value of $(6^3)^2$

2. Simplify $\frac{2^5}{2^3}$

3. Find the value of $\left(\frac{3}{4}\right)^2 \times \left(\frac{4}{3}\right)^2$

4. Simplify $(5^2)^3 \div 5^3$

5. Simplify $(x^3)^2 \times (x^2)^3$