

CHAPTER-2 | Power Play

QUIZ
PART-081. $2^{100} \div 2^{25}$ is equal to:

- A. 2^{125}
B. 2^{75}
C. 2^{50}
D. 2^{25} (B)

Explanation: Same base division means subtract powers: $100 - 25 = 75$.

2. $n^a \div n^b$ is equal to:

- A. $n^{(a+b)}$
B. n^{ab}
C. $n^{(a-b)}$
D. $n^{(b-a)}$ (C)

Explanation: For same base division, subtract the exponents.

3. In $n^a \div n^b$, n cannot be:

- A. 0
B. 1
C. 2
D. 10 (A)

Explanation: Division by zero is not defined.

4. What is x^0 , where $x \neq 0$?

- A. 0
B. 1
C. x
D. x^2 (B)

Explanation: Any non-zero number raised to power 0 is 1.

5. $5^5 \times 5^2 \times 5^{-4}$ is equal to:

- A. 5^2
B. 5^3
C. 5^4
D. 5^5 (B)

Explanation: Add powers: $5 + 2 - 4 = 3$.

6. A line of length 2^7 halved 5 times becomes:

- A. 2^2
B. 2^3
C. 2^4
D. 2^5 (A)

Explanation: Halving 5 times means dividing by 2^5 , so $2^7 \div 2^5 = 2^2$

7. 10^{-3} is equal to:

- A. 1000
B. 100
C. $1/10^3$
D. $1/10$ (C)

Explanation: Negative exponent means reciprocal.

8. $7^9 \div 7^4$ is equal to:

- A. 7^5
B. 7^{13}
C. 7^{36}
D. 7^4 (A)

Explanation: Same base division: $9 - 4 = 5$.

9. $3^6 \div 3^6$ is equal to:

- A. 3^6
B. 3^0
C. 3^{12}
D. 0 (B)

Explanation: $3^6 \div 3^6 = 3^{(6-6)} = 3^0 = 1$.

10. Which rule is correct?

- A. $n^a \times n^b = n^{(a-b)}$
B. $(n^a)^b = n^{(a+b)}$
C. $n^a \div n^b = n^{(a-b)}$
D. $n^a \div n^b = n^{ab}$ (C)

Explanation: The correct division rule is to subtract exponents for the same base.