

Worksheet 5.3: Properties of Exponents — Multiple Choice

Instructions: Choose the best answer. Simplify each expression using the properties of exponents. Leave your final answer in exponential form when possible.

1. Simplify the expression.

$$\frac{2^{3x-1} \cdot 2^{x+4}}{2^{2x+1}}$$

- A. 2^{x+2}
C. 2^{2x+4}

- B. 2^{2x+2}
D. 2^{4x+2}

2. Simplify the expression.

$$\frac{(5^{n+2})^2}{25^{n+5}}$$

- A. 5
C. 5^2

- B. 25
D. 5^3

3. Simplify the expression.

$$\frac{3^{n+2} - 3^n}{3^n}$$

- A. 2^2
C. 3^2

- B. 2^3
D. 3^3

4. Simplify the expression.

$$\frac{4^{x+1} \cdot 8^{x-1}}{2^{5x}}$$

- A. 2
C. 2^x

- B. $\frac{1}{2}$
D. 2^{-x}

5. Simplify the expression.

$$\frac{6^{n+1} \cdot 12^{n-1}}{72^n}$$

- A. $\frac{1}{2}$
C. 3^n

- B. 2
D. 6^{n-1}

6. Simplify the expression.

$$\frac{16^{n-1} \cdot 2^{3-2n}}{8^{n-1}}$$

- A. 2^{n+2}
C. 2^{n-2}

- B. 2^{2-n}
D. 2^{4-n}