



Name: _____
Date Started: _____ Date Completed: _____ Score: _____

Learning Activity Sheet
Laws of Exponent

INSTRUCTIONS: Answer the following questions. Encircle the letter of the correct answer.

1. Which should be followed when multiplying exponential equations with similar bases?
A. Add the bases and copy the exponents.
B. Retain the bases and multiply the exponents.
C. Copy the bases and subtract the exponents.
D. Retain the bases and add the exponents.
2. What must be done to simplify $(k^2z)^3$?
A. Multiply k^2z to itself three times.
B. Add the exponents of k^2 and z then multiply it by 3.
C. Multiply 3 to k^2z .
D. Multiply the exponents of k^2 and z then add 3 to it.
3. Which statement below illustrates the quotient rule for exponents?
A. $m^5 \div m^2 = m^{5+2} = m^{7.5}$
B. $m^5 \div m^2 = m^{5-2} = m^3$
C. $m^5 \div m^2 = m^{5+2} = m^7$
D. $m^5 \div m^2 = m^{5 \times 2} = m^{10}$

For items 4–13, perform the indicated operations.

4. $11^4 - 11^2$
A. $11^{4 \times 2} = 11^8 = 214,358,881$
B. $44 \cdot 22 = 968$
C. $11^{4-2} = 11^2 = 121$
D. $11^{4+2} = 11^6 = 171,561$
5. $q^{12} \cdot q^5$
A. $q^{12+5} = q^{17}$
B. $q^{12 \times 5} = q^{60}$
C. $12q \cdot 5q = 60q$
D. $q^{12-5} = q^7$
6. $(6^3)^4$
A. $(6^3)^4 = 6^{3+4} = 6^7 = 279,936$
B. $(6^3)^4 = 6^{3-4} = 6^{-1} = 1/6$
C. $(6^3)^4 = 6^{3 \times 4} = 6^{12} = 2,176,782,336$
D. $(6^3)^4 = 18^4 = 104,976$
7. $(r^5)^9$
A. $(r^5)^9 = r^{5+9} = r^{14}$
B. $(r^5)^9 = r^{5 \times 9} = r^{45}$
C. $(r^5)^9 = r^{5-9} = r^{-4}$
D. $(r^5)^9 = 5r^9$
8. $(4v^4)^3$
A. $(4v^4)^3 = 12v^{4 \times 3} = 12v^{12}$
B. $(4v^4)^3 = 4^3v^{4 \times 3} = 64v^{12}$
C. $(4v^4)^3 = 4^3v^{4+3} = 64v^7$
D. $(4v^4)^3 = 12v^{4+3} = 12v^7$
9. $(g^2h^2)^5$
A. $(g^2h^2)^5 = g^{2+5}h^{2+5} = g^7h^7$
B. $(g^2h^2)^5 = 5(g^2h^2) = 10g^2h^2$
C. $(g^2h^2)^5 = gh^{2+2+5} = gh^9$
D. $(g^2h^2)^5 = g^{2 \times 5}h^{2 \times 5} = g^{10}h^{10}$
10. $20^{25} \div 20^{21}$
A. $20^{25} \div 20^{21} = 20^{25/20^{21}} = 20^4 = 160,000$
B. $20^{25} \div 20^{21} = 20^{25 \div 21} = 20^{1.191}$
C. $20^{25} \div 20^{21} = 20^{25/20^{16}} = 1^9 = 1$
D. $20^{25} \div 20^{16} = 20^{25+21} = 20^{46}$