Lesson 2.5: Exponent Laws II

1. Write each expression as a product of powers or a quotient of powers.



a) (3 × 2)4 b) [(–4) × 3]2



c) [(–2) × (–4)]3 d) (7 × 11)0



e) (10 ÷ 5)3 f) [(–12 ) ÷ (–6)]2



g)  h) 



2. Write as a power.

a) (34)2 b) (50)3



c) –(72)2 d) [(–3)3]2



3. Why is the value of [(–3)3]2 positive and the value of [(–3)3]3 negative?



4. Simplify, then evaluate.



a) (23 × 21)2 b) (54 ÷ 52)2



c) [(–3)0 × (–3)3]2 d) (102)4 ÷ (103)2



5. Simplify, then evaluate each expression.

a) (32 × 43)2 – (44 ÷ 42)2 b) (23 ÷ 22)3 + (74 × 73)0



c) [(–1)3]4 – [(–1)4 ÷ (–1)3]2 d) (42 × 43)0 – (32)2



e) (52 × 50)3 + (25 ÷ 23)3 f) (106 ÷ 103)2 + (23 ÷ 21)4



6. Find and correct any errors in each solution.



a) (43 × 22)2 = (85)2



= 810



= 1 073 741 824



b) [(–10)3]4 = (–10)7



= –10 000 000



c) (22 + 23)2 = (25)2



= 210



= 1024

