

Chapter 9 — Powers and Exponents

Worksheet C: Mixed Application

Name: _____ Grade: _____ Date: _____

1. A student says $10^3 = 10 \times 3 = 30$. Explain the mistake and find the correct value.

2. A cube has an edge length of 7 cm. Write an expression for its volume and calculate the volume.

3. Evaluate: $8^2 - 3^3$

4. Evaluate: $1 + 5^2 \times 4$

5. Simplify: $9^6 \div 9^4$

6. Simplify: $(7^2)^2$

7. A student says $-10^2 = 100$. Explain the error and find the correct value.

8. Evaluate: $(-3)^5 + 8$

9. A square garden has side length 13 m. Write an expression for its area and calculate the area.

10. Simplify: $8^4 \times 8^3$

11. Evaluate: $3^5 - 2^4$

12. A student says $3^2 \times 4^3 = 12^5$. Explain why this is incorrect. Then evaluate the original expression.

13. Evaluate: $6 + 5^3 \div 25$

14. Non-Routine: Create two powers with the same base that has not appeared earlier in this chapter. One must be greater than 100 and the other less than 100. Explain why.

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15. Non-Routine: A student writes $(-9)^2 = -(9^2) = -81$. Identify the first incorrect step. Then evaluate correctly.