

HW 1.1-1.3 Powers, Exponents, and Properties (20 Questions Total)

Name: _____ Section: _____

Show Your Work (Required): For full credit, show every step and explain your reasoning. Answers without work earn a 50% deduction even if correct.

Example 1: Write 2^3 as a product.

Answer: $2 \times 2 \times 2$

Example 2: Simplify/ evaluate 4^2 .

Answer: $4 \times 4 = 16$

Example 3: $2(8-10)+6$

Answer: $= 2 \times (-2) + 6$
 $= -4+6$
 $= 2$

Section A: Powers & Exponents

1. Write 6^3 as a product.
2. Simplify 3^3 .
3. Evaluate 5^2+2^5
4. Which is larger: 3^4 or 4^3 ? Show your work.
5. Write 64 as a power of 2.
6. True or False: $10^4 = 40$? Explain.

Section B: Order of Operations (show me all steps)

7. $5 + 3 \times 4$

8. $4 \times 5 + 5$

9. $- 2(4 + 8) - 8$

10. $- 3(4 - 8) - 8$

11. $(3 + 5) \div 2$

12. $15 + 2(9 - 10)$

13. $3 \times (3^2 - 3)$

Section C: Properties of Operations (show me the reason, property name, and property formula for ALL QUESTIONS)

14. State the property shown: $16+9 = 9+16$

a. Reason:

b. Property name:

c. Formula:

15. State the property shown: $(2+5)+13=2+(5+13)$

16. State the property shown: $8 \times 1 = 8$

17. State the property shown: $2 \times (8 + 3) = 2 \times 8 + 2 \times 3$

18. Simplify using the distributive property: $-3(8 + 3)$

19. Identify the property: $3 \times (2 \times 5) = (3 \times 2) \times 5$

20. If $0+27 = 27+0$, which property is used?