EXTRA PRACTICE 3
Exponential Notation And Order Of Operations
Use after Section 1.8 **Name**_____

Examples:

a) Write exponential notation for $8 \cdot 8 \cdot 8 \cdot 8$.
The exponential notation is 8^4.

b) Simplify using order of operations: $5^2 - 7(3-8) + 5$

$$25 - 7(5) + 5$$
$$25 - 35 + 5$$
$$-10 + 5$$
$$-5$$

c) Evaluate $(2x+5) \div 3$, for $x = 8$.

$$= (2(8)+5) \div 3$$
$$= (16+5) \div 3$$
$$= 21 \div 3$$
$$= 7$$

Write in exponential notation.

1. $6 \cdot 6 \cdot 6$ _____
2. $14 \cdot 14 \cdot 14 \cdot 14 \cdot 14$ _____
3. $t \cdot t \cdot t \cdot t$ _____
4. $2x \cdot 2x \cdot 2x \cdot 2x \cdot 2x \cdot 2x \cdot 2x \cdot 2x$ _____

Simplify.

5. 6^2 _____
6. $(-4)^3$ _____
7. 3^5 _____
8. $(-1)^7$ _____
9. 8^2 _____
10. $(-2)^4$ _____
11. $(-4)^1$ _____
12. 5^3 _____
13. $(8x)^2$ _____
14. $(-2x)^3$ _____
15. $8 + 2 \cdot 3$ _____
16. $6 \cdot 4 - 7$ _____
17. $6 + 8 \div 4$ _____
18. $7 \cdot 2 - 6 \div 3$ _____
19. $3 + 7 \div 1 + 4$ _____
20. $6 \cdot 2 \div 4 - 1$ _____
21. $7 + 2^2$ _____
22. $(7+2)^2$ _____
23. $6 + 4 \div 2$ _____
24. $(6+4) \div 2$ _____
25. $32 \div (-2) + 6$ _____
26. $8 \cdot (-2) - (-6) \div 2$ _____

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Simplify.

27. $3^2 \cdot 2^3 + 4$ _____
28. $4^2 + 3 \cdot 9$ _____
29. $2^2 - (9 + 4^2) \div (10 \div 2)$ _____
30. $\left[36 \div (4 \cdot (7 - 4))\right]^3$ _____
31. $\dfrac{18 \div 2}{2^2 - 1}$ _____
32. $8^2 - 4 \cdot 3 + 16 \div (3 + 5)$ _____
33. $|4 - 3 \cdot 2| \div (-2)$ _____
34. $6 - 6 \cdot 7 + 4^2 - (3 \cdot 5)$ _____
35. $\left[6 + 5(2^2 - 10)\right] \div 8$ _____

Evaluate.

36. $8 + 3x$, for $x = -1$ _____
37. $24 - t^4$, for $t = 2$ _____
38. $12 \div (2s)$, for $s = -3$ _____
39. $16 - 5m + 4$, for $m = 5$ _____
40. $r^2 - 2(r + 4)$, for $r = -2$ _____
41. $(3x + 7) \div 4$, for $x = 3$ _____
42. $(a^2 - 10) \div (a \div 2 - 5)$, for $a = 4$ _____
43. $-(c - 3)^2 - 11c$, for $c = -1$ _____

Rename each expression without using parentheses.

44. $-(-7x + 3)$ _____
45. $-(5 + 8x)$ _____
46. $-(a - 4b - 9c)$ _____
47. $-(5c^2 + 10c - 2)$ _____

Remove parentheses and simplify.

48. $2y - (4y + 1)$ _____
49. $3q - (8 - 2q)$ _____
50. $6s - (10s - 3)$ _____
51. $d - (d - 1)$ _____
52. $3x + x - (4 - 2x)$ _____
53. $2e + 3n - 4(2e - n)$ _____
54. $6x - 2y - 5(x + 2y)$ _____
55. $4x^2 + 2x - 3(x^2 + 2)$ _____
56. $-5a^2 - 2ab + 4b^2 - 2(2a^2 - 3b^2)$ _____
57. $4(x - 5) - 3(7 - x)$ _____
58. $3(x^2 - 4x) + 2x - 7(2x^2 + 1)$ _____
59. $5(2 + 3x) - [4(x - 1) + 2]$ _____
60. $2(x^2 + 7) - [6(x + 3) - x^2]$ _____