

Algebra 0507  
Chapter 8  
Intro to WS #1

Name\_\_\_\_\_

Complete the chart.

|     | Expression | Base | Exponent | Meaning                                             |
|-----|------------|------|----------|-----------------------------------------------------|
| 1.  | $5^6$      |      |          |                                                     |
| 2.  | $10^3$     |      |          |                                                     |
| 3.  | $2^6$      |      |          |                                                     |
| 4.  | $a^5$      |      |          |                                                     |
| 5.  |            | 10   | 5        |                                                     |
| 6.  |            | 2    | 3        |                                                     |
| 7.  |            |      |          | $10 \cdot 10 \cdot 10 \cdot 10$                     |
| 8.  |            |      |          | $x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x$ |
| 9.  |            |      |          | x                                                   |
| 10. | $(-1)^8$   |      |          |                                                     |

Evaluate. Rule for powers of 10:\_\_\_\_\_.

|            |            |            |
|------------|------------|------------|
| 11. $10^2$ | 12. $10^4$ | 13. $10^1$ |
| 14. $10^5$ | 15. $10^7$ | 16. $10^3$ |

Evaluate. Rule for powers of -1: \_\_\_\_\_.

|              |                 |                  |
|--------------|-----------------|------------------|
| 17. $(-1)^7$ | 18. $(-1)^5$    | 19. $(-1)^{99}$  |
| 20. $(-1)^6$ | 21. $(-1)^{10}$ | 22. $(-1)^{100}$ |

Write in exponential form.

|                   |                     |                |
|-------------------|---------------------|----------------|
| 23. 100,000       | 24. 1 million       | 25. 1 thousand |
| 26. 1,000,000,000 | 27. 100,000,000,000 | 28. 1          |

Write each product as a base with a single exponent.

|                     |                               |                             |
|---------------------|-------------------------------|-----------------------------|
| 29. $2^3 \cdot 2^4$ | 30. $10 \cdot 10^4$           | 31. $2^3 \cdot 2^3$         |
| 32. $a^4 \cdot a^2$ | 33. $m^6 \cdot m^2 \cdot m^3$ | 34. $y^5 \cdot y^4 \cdot y$ |

Find the value when  $a = -1$ ,  $b = 2$ ,  $c = -3$

|                   |                 |                 |
|-------------------|-----------------|-----------------|
| 35. $ab^2$        | 36. $a^3c^2$    | 37. $abc^2$     |
| 38. $a^{100}b^3c$ | 39. $a^{25}b^2$ | 40. $a^3b^3c^3$ |