

Multiplication Skill 5 - 5D

Exponents

Answers to test question 5C.

Directions: Write in standard form.

3^3 answer 27

10^3 answer 1,000

7^1 answer 7

Examples

Directions: Write in standard form.

3^3 $3 \times 3 \times 3 = 27$	10^3 $10 \times 10 \times 10 = 1,000$	<u>Rule</u> Any number raised to the first power is always equal to itself. $7^1 = 7$	<u>Rule</u> Any number raised (except zero) to the zero power is equal to 1. $8^0 = 1$
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Directions: Write in standard form. The first one is done for you as an example.

1. $4^3 = 64$

2. 3^0

3. 2^4

4. 5^1

5. 3^7

6. 8^2

7. 12^2

8. 9^2

9. 8^1

10. 6^0

11. 2^5

12. 3^4

13. 4^5

14. 2^3

15. 5^4

16. 10^3

17. 12^2

18. 6^3

Directions: Rewrite the following in exponent form. Next, write the value. The first one is complete.

19. $3 \times 3 = 3^2 = 9$

20. $8 \times 8 \times 8$

21. $5 \times 5 \times 5 \times 5 \times 5$

22. $4 \times 4 \times 4 \times 4 \times 4$

23. 6×6

24. 7×7

25. $2 \times 2 \times 2$

26. 8×8

27. $5 \times 5 \times 5$

28. $10 \times 10 \times 10$

29. $2 \times 2 \times 2 \times 2 \times 2$

30. 9×9

Multiplication Skill 5 - 5D

Exponents

Find the value of b . The problems in boxes are complete to help solve the other problems.

$$34. b^3 = 27$$
$$b = 3$$

$$35. b^2 = 4$$

$$36. 2^b = 16$$
$$b = 4$$

$$37. 10^b = 100$$

$$38. 10^b = 1,000$$

$$39. 4^b = 64$$

$$40. b^1 = 8$$

$$41. b^3 = 125$$

$$42. 5^b = 25$$

$$43. b^0 = 1$$

answer:
 b equals any number except
zero.

$$44. 10^b = 10,000$$

$$45. 8^b = 64$$

$$46. 7^b = 49$$

$$47. 6^b = 36$$

$$48. 2^b = 32$$

$$49. b^0 = 1$$

$$50. 5^b = 625$$

$$51. 7^b = 2,401$$

$$52. 6^b = 1$$

$$53. 2^b = 128$$

$$54. 4^b = 256$$

$$55. 3^b = 27$$

$$56. 10^b = 10,000$$

$$57. b^2 = 36$$

$$58. 8^b = 64$$

$$59. b^2 = 49$$

$$60. 5^b = 5$$

$$61. 8^b = 1$$

Answer Key Skill 5-5D

1. $4^3 = 64$	2. $3^0 = 1$	3. $2^4 = 16$
4. $5^1 = 5$	5. $3^7 = 2,187$	6. $8^2 = 64$
7. $12^2 = 144$	8. $9^2 = 81$	9. $8^1 = 8$
10. $6^0 = 1$	11. $= 2^5 = 32$	12. $3^4 = 81$
13. $4^5 = 1,024$	14. $2^3 = 8$	15. $5^4 = 625$
16. $10^3 = 1,000$	17. $12^2 = 144$	18. $6^3 = 216$

Directions: Rewrite the following in exponent form. Next, write the value. The first one is complete.

19. $3 \times 3 = 3^2 = 9$	20. $8 \times 8 \times 8 = 8^3 = 512$	21. $5 \times 5 \times 5 \times 5 \times 5 = 5^5 = 3,125$
22. $4 \times 4 \times 4 \times 4 \times 4 = 4^5 = 1,024$	23. $6 \times 6 = 6^2 = 36$	24. $7 \times 7 = 7^2 = 49$
25. $2 \times 2 \times 2 = 2^3 = 8$	26. $8 \times 8 = 8^2 = 64$	27. $5 \times 5 \times 5 = 5^3 = 125$
28. $10 \times 10 \times 10 = 10^3 = 1,000$	29. $2 \times 2 \times 2 \times 2 \times 2 = 2^5 = 32$	30. $9 \times 9 = 9^2 = 81$

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Find the value of b . The problems in boxes are complete to help solve the other problems.

34. $b^3 = 27$ $b = 3$	35. $b^2 = 4$ $b = 2$	36. $2^b = 16$ $b = 4$	37. $10^b = 100$ $b = 2$
38. $10^b = 1,000$ $b = 3$	39. $4^b = 64$ $b = 3$	40. $b^1 = 8$ $b = 8$	41. $b^3 = 125$ $b = 5$
42. $5^b = 25$ $b = 2$	43. $b^0 = 1$ answer: b equals any number except zero.	44. $10^b = 10,000$ $b = 4$	45. $8^b = 64$ $b = 2$
46. $7^b = 49$ $b = 2$	47. $6^b = 36$ $b = 2$	48. $2^b = 32$ $b = 5$	49. $b^0 = 1$ $b =$ any number except zero.
50. $5^b = 625$ $b = 4$	51. $7^b = 2,401$ $b = 4$	52. $6^b = 1$ $b = 0$	53. $2^b = 128$ $b = 7$
54. $4^b = 256$ $b = 4$	55. $3^b = 27$ $b = 3$	56. $10^b = 10,000$ $b = 4$	57. $b^2 = 36$ $b = 6$
58. $8^b = 64$ $b = 2$	59. $b^2 = 49$ $b = 7$	60. $5^b = 5$ $b = 1$	61. $8^b = 1$ $b = 0$