

Homework

Lesson 3

Powers and Exponents

Homework Helper



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Write $6 \times 6 \times 6$ using an exponent.

The base is 6. Since 6 is used as a factor three times, the exponent is 3.

So, $6 \times 6 \times 6 = 6^3$.

Practice

Write each product using an exponent.

1. $10 \times 10 \times 10 =$ _____

2. $12 \times 12 =$ _____

Write each power as a product of the same factor. Then find the value.

3. $3^7 =$ _____

4. $10^6 =$ _____

Write the prime factorization of each number using exponents.

5. $20 =$ _____

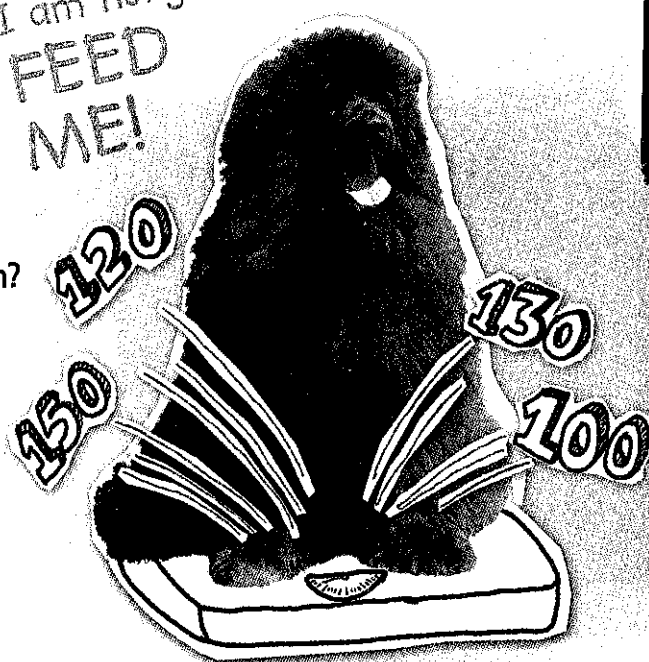
6. $50 =$ _____



Problem Solving

- 7. PRACTICE** **Look for a Pattern** The Newfoundland is a large breed of dog. It weighs about 10×10 pounds. Write 10×10 using an exponent. Then find the value of the power. How many pounds does the Newfoundland weigh?

I am hungry.
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- 8.** The area of San Bernardino County, California, the largest county in the United States, is about 3^9 square miles. Write this as an expression. What is the area of San Bernardino County?

Vocabulary Check



Fill in each blank with the correct term or number to complete each sentence.

- 9.** Numbers expressed using exponents are called _____.
- 10.** The exponent indicates how many times the _____ is used as a factor.

Test Practice

- 11.** A 100-pound person on Earth would weigh about $4 \times 4 \times 4 \times 4$ pounds on Jupiter. Evaluate the expression to determine how much a 100-pound person would weigh on Jupiter.
- (A) 16 pounds (C) 256 pounds
(B) 64 pounds (D) 1,024 pounds