Name _____ Class _____ Date _____

Reteaching 8-2

Scientific Notation

OBJECTIVE: Writing numbers in scientific notation

MATERIALS: None

To write a number in **scientific notation**, follow these steps:

- Move the decimal to the right of the first integer.
- If the original number is greater than 1, multiply by 10^n, where n represents the number of places the decimal was moved to the left.
- If the original number is less than 1, multiply by 10^{-n}, where n represents the number of places the decimal was moved to the right.

Examples

Write each number in scientific notation.

a. 9,040,000,000 ← **standard form**

9,040 000 000. ← **Move the decimal to the left nine places.**

9.04×10^9 ← **Drop all insignificant 0's. Multiply by the appropriate power of 10.**

b. 0.000 000 8 ← **standard form**

0.000 000 8. ← **Move the decimal to the right seven places.**

8.0×10^{-7} ← **Multiply by the appropriate power of 10.**

Exercises

Write each number in scientific notation.

1. 420,000

2. 5,100,000,000

3. 260 billion

4. 830 million

5. 0.00075

6. 0.004005

Write each number in standard notation.

7. 6.345×10^8

8. 3.2×10^{-5}

9. 4.081×10^6

10. 2.581×10^{-3}

11. 3.07×10^{-2}

12. 1.526×10^6

13. 8.04×10^{-4}

14. 7.625×10^5

15. 6.825×10^4

16. 3.081×10^{-5}

17. 8.3847×10^2

18. 3.6245×10^{-2}

© Pearson Education, Inc. All rights reserved.