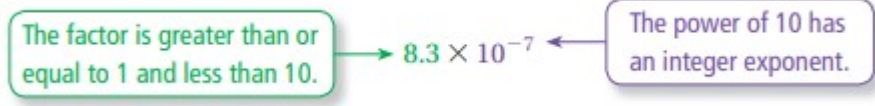


A number is written in _____ when it is represented as the product of a factor and a power of 10. The factor must be greater than or equal to 1 and less than 10.



If the number is greater than or equal to 10, then the exponent is positive. If the number is between 0 and 1, then the exponent is negative.

Key Idea

Writing Numbers in Scientific Notation

Move the decimal point so it is located to the right of the leading nonzero digit. The number of places you moved the decimal point indicates the exponent of the power of 10, as shown below.

Number Greater Than or Equal to 10

Use a positive exponent when you move the decimal point to the left.

$$\begin{array}{c} 8600 = 8.6 \times 10^3 \\ \text{~~~~~} \\ 3 \end{array}$$

Number Between 0 and 1

Use a negative exponent when you move the decimal point to the right.

$$\begin{array}{c} 0.0024 = 2.4 \times 10^{-3} \\ \text{~~~~~} \\ 3 \end{array}$$

Writing Numbers in Scientific Notation

Ex:) Write the given number in scientific notation.

A. 173,000,000

B. 0.0000032

Notes:

OYO:) Write the given number in scientific notation.

Notes:

A. 25,000,000

B. 0.00000033

Key Idea

Writing Numbers in Standard Form

The absolute value of the exponent indicates how many places to move the decimal point.

- If the exponent is **negative**, move the decimal point to the **left**.
- If the exponent is **positive**, move the decimal point to the **right**.

Writing Numbers in Standard Form

Ex:) Write the given number in standard form.

Notes:

A. 3.22×10^{-4}

B. 7.9×10^5

OYO:) Write the given number in standard form.

Notes:

A. 9.9×10^{-5}

B. 1.285×10^4

Modeling Real Life

Ex:) A dog has 100 female fleas. What is the total amount of blood consumed by the fleas each day? Express your answer using more-appropriate units.

Notes:



A female flea consumes about 1.4×10^{-5} liter of blood each day.

OYO:) The epidermis, dermis, and hypodermis are layers of your skin. The dermis is about 3.5 millimeters thick. The epidermis is about 1.25×10^{-3} meter thick. The hypodermis is about 0.15 cm thick. What is the difference in thickness of the thickest layer and the thinnest layer. Justify your answer.

Notes:

