

Scientific Notation

Scientific notation is a method of expressing very large and very small numbers as a product of a number greater than or equal to one and less than 10, and a power of 10.

Examples:

$250,000$
 25×10^5
 ↓
 move 5 places right

$_ \times 10^{\square}$

0.095
 9.5×10^{-2}
 ↓
 move 2 place left

Practice:

1. $41,200$

4.12×10^4

2. 133.25

1.3325×10^2

3. 0.00007456

7.456×10^{-5}

An estimate of the world's population in 2010 was 6,880,000,000. Write this population in scientific notation.

6.88×10^9

How can we write numbers that are in scientific notation in standard form?

$$4.18549 \times 10^{12}$$

↳ move right
12 times

$$2.568 \times 10^{-6}$$

↳ left
6 times

4,185,490,000,000 | 0.000002568

Classwork: WB p. 96

HW: WB p. 97 evens

p 85
 13

$$16 - (3+2)^0 + 2^{-1}$$

$$16 - 1 + \frac{1}{2}$$

$$\textcircled{9\frac{1}{2}}$$

$$\textcircled{17} 6(8-2)^0 + 4^{-2}$$

$$6 + \frac{1}{4}$$

$$\textcircled{6\frac{1}{4}}$$

$$\textcircled{19} 3\left(\frac{1+2}{3}\right)^0 + 9^{-1} + 2^0$$

$$3\left(\frac{1}{3}\right) + \frac{1}{9} + 1$$

$$\frac{3}{3} + \frac{1}{9} + 1$$

$$\textcircled{1\frac{4}{9}}$$

$$5 - y = -2$$

$$-5 \quad -5$$

$$-y = -2 + -5$$

$$\frac{-y}{-1} = \frac{-7}{1}$$

$$\textcircled{y = 7}$$

$$3. (3^2)^2 + (8-4)^{-3}$$

$$3 \cdot 3^4 \quad 4^{-3}$$

$$3^5 \quad \frac{1}{4^3}$$

$$243 \frac{1}{64}$$