

Name : _____

Score : _____

Scientific Notation

Express each number in scientific notation.

1) 0.0000056 = _____

2) 90,825,000 = _____

3) 745,000 = _____

4) 0.0000000377 = _____

5) 100,000,000 = _____

Express each number in standard notation.

6) 1.028×10^9 = _____

7) 5.61×10^{-11} = _____

8) 4.128×10^{10} = _____

9) 2.9×10^{-8} = _____

10) 6.542×10^{-12} = _____

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Scientific Notation

Express each number in scientific notation.

1) 0.00000927 = _____

2) 85,000,000 = _____

3) 4,202,100 = _____

4) 0.0000000000037 = _____

5) 1,000,000,000 = _____

Express each number in standard notation.

6) 6.024×10^{-13} = _____

7) 2.13×10^{11} = _____

8) 1.2×10^{-8} = _____

9) 3.7×10^{-9} = _____

10) 5.002×10^6 = _____

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Scientific Notation

Simplify and express in scientific notation:

Example 1

$(5 \times 10^6) (7 \times 10^9)$

$$\begin{aligned} (5 \times 10^6) (7 \times 10^9) &= 35 \times 10^6 \times 10^9 \\ &= 35 \times 10^{15} \\ &= \mathbf{3.5 \times 10^{16}} \end{aligned}$$

Example 2

$$\begin{aligned} \frac{9 \times 10^8}{8 \times 10^{-2}} &= \frac{9}{8} \times 10^8 \times 10^2 \\ &= \mathbf{1.125 \times 10^{10}} \end{aligned}$$

Simplify each problem and express the answer in scientific notation.

1) $(2 \times 10^7) (9 \times 10^{-3})$

Answer : _____

2) $\frac{15 \times 10^{-5}}{4 \times 10^{-7}}$

Answer : _____

3) $\frac{15 \times 10^{-7}}{16 \times 10^{-5}}$

Answer : _____

4) $(9 \times 10^8) (7 \times 10^5)$

Answer : _____

5) $(8 \times 10^{-7}) (3 \times 10^{-6})$

Answer : _____

6) $\frac{7 \times 10^{-3}}{16 \times 10^2}$

Answer : _____

7) $\frac{4 \times 10^8}{1 \times 10^4}$

Answer : _____

8) $(4 \times 10^3) (4 \times 10^7)$

Answer : _____

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Scientific Notation

Simplify and express in scientific notation:

Example 1

$$\frac{5 \times 10^9}{16 \times 10^6} = \frac{5}{16} \times 10^9 \times 10^{-6}$$

$$= \mathbf{3.125 \times 10^2}$$

Example 2

$$(7 \times 10^8)(9 \times 10^4)$$

$$(7 \times 10^8)(9 \times 10^4) = 63 \times 10^8 \times 10^4$$

$$= 63 \times 10^{12}$$

$$= \mathbf{6.3 \times 10^{13}}$$

Simplify each problem and express the answer in scientific notation.

1) $\frac{21 \times 10^{-7}}{4 \times 10^2}$

Answer : _____

2) $(12 \times 10^{-5})(8 \times 10^{-9})$

Answer : _____

3) $(2 \times 10^6)(5 \times 10^{-2})$

Answer : _____

4) $\frac{13 \times 10^{-8}}{8 \times 10^{-4}}$

Answer : _____

5) $\frac{9 \times 10^3}{4 \times 10^{-5}}$

Answer : _____

6) $(6 \times 10^{-7})(3 \times 10^3)$

Answer : _____

7) $(4 \times 10)(13 \times 10^5)$

Answer : _____

8) $\frac{27 \times 10^4}{10 \times 10^8}$

Answer : _____