

Name : _____

Score : _____

Scientific Notation

Simplify and express in scientific notation:

Example 1

$$\begin{aligned}(6 \times 10^2) + (5 \times 10^5) \\ &= (6 \times 10^2) + (5 \times 10^2) \times 10^3 \\ &= (6 \times 10^2) + (5000 \times 10^2) \\ &= 5006 \times 10^2 \\ &= \mathbf{5.006 \times 10^5}\end{aligned}$$

Example 2

$$\begin{aligned}(3 \times 10^{-3}) - (2 \times 10^{-6}) \\ &= (3 \times 10^{-6}) \times 10^3 - (2 \times 10^{-6}) \\ &= (3000 \times 10^{-6}) - (2 \times 10^{-6}) \\ &= 2998 \times 10^{-6} \\ &= \mathbf{2.998 \times 10^{-3}}\end{aligned}$$

Simplify each problem and express the answer in scientific notation.

1) $(3 \times 10^{-2}) - (6 \times 10^{-5})$

Answer : _____

2) $(8 \times 10^3) + (5 \times 10^{-1})$

Answer : _____

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

Answer : _____

4) $(9 \times 10^{-5}) - (6 \times 10^{-7})$

Answer : _____

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

Answer : _____

6) $(6 \times 10^{-7}) + (7 \times 10^{-4})$

Answer : _____

7) $(3 \times 10^{-9}) + (5 \times 10^{-5})$

Answer : _____

8) $(2 \times 10^8) - (4 \times 10^5)$

Answer : _____

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Answer key

Simplify and express in scientific notation:

Example 1

$$\begin{aligned}
 &(6 \times 10^2) + (5 \times 10^5) \\
 &= (6 \times 10^2) + (5 \times 10^2) \times 10^3 \\
 &= (6 \times 10^2) + (5000 \times 10^2) \\
 &= 5006 \times 10^2 \\
 &= \mathbf{5.006 \times 10^5}
 \end{aligned}$$

Example 2

$$\begin{aligned}
 &(3 \times 10^{-3}) - (2 \times 10^{-6}) \\
 &= (3 \times 10^{-6}) \times 10^3 - (2 \times 10^{-6}) \\
 &= (3000 \times 10^{-6}) - (2 \times 10^{-6}) \\
 &= 2998 \times 10^{-6} \\
 &= \mathbf{2.998 \times 10^{-3}}
 \end{aligned}$$

Simplify each problem and express the answer in scientific notation.

1) $(3 \times 10^{-2}) - (6 \times 10^{-5})$

Answer : $\mathbf{2.994 \times 10^{-2}}$

2) $(8 \times 10^3) + (5 \times 10^{-1})$

Answer : $\mathbf{8.0005 \times 10^3}$

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

Answer : $\mathbf{7.004 \times 10^7}$

4) $(9 \times 10^{-5}) - (6 \times 10^{-7})$

Answer : $\mathbf{8.94 \times 10^{-5}}$

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

Answer : $\mathbf{4.992 \times 10^6}$

6) $(6 \times 10^{-7}) + (7 \times 10^{-4})$

Answer : $\mathbf{7.006 \times 10^{-4}}$

7) $(3 \times 10^{-9}) + (5 \times 10^{-5})$

Answer : $\mathbf{5.0003 \times 10^{-5}}$

8) $(2 \times 10^8) - (4 \times 10^5)$

Answer : $\mathbf{1.996 \times 10^8}$