

Name : _____

Score : _____

Scientific Notation

Simplify and express in scientific notation:

Example 1

$$\begin{aligned} & (7 \times 10^{-8}) + (5 \times 10^{-5}) \\ &= (7 \times 10^{-8}) + (5 \times 10^{-8}) \times 10^3 \\ &= (7 \times 10^{-8}) + (5000 \times 10^{-8}) \\ &= 5007 \times 10^{-8} \\ &= \mathbf{5.007 \times 10^{-5}} \end{aligned}$$

Example 2

$$\begin{aligned} & (6 \times 10^4) - (9 \times 10^2) \\ &= (6 \times 10^2) \times 10^2 - (9 \times 10^2) \\ &= (600 \times 10^2) - (9 \times 10^2) \\ &= 591 \times 10^2 \\ &= \mathbf{5.91 \times 10^4} \end{aligned}$$

Simplify each problem and express the answer in scientific notation.

1) $(9 \times 10^{-8}) + (3 \times 10^{-5})$

Answer : _____

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

Answer : _____

3) $(7 \times 10^{-2}) - (8 \times 10^{-4})$

Answer : _____

4) $(3 \times 10^4) + (6 \times 10^8)$

Answer : _____

5) $(5 \times 10^{-5}) + (4 \times 10^{-2})$

Answer : _____

6) $(8 \times 10^6) - (3 \times 10^2)$

Answer : _____

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

Answer : _____

8) $(4 \times 10^{-1}) + (9 \times 10^3)$

Answer : _____

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Answer key

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Example 2

$$\begin{aligned} & (6 \times 10^4) - (9 \times 10^2) \\ &= (6 \times 10^2) \times 10^2 - (9 \times 10^2) \\ &= (600 \times 10^2) - (9 \times 10^2) \\ &= 591 \times 10^2 \\ &= \mathbf{5.91 \times 10^4} \end{aligned}$$

Simplify each problem and express the answer in scientific notation.

1) $(9 \times 10^{-8}) + (3 \times 10^{-5})$

Answer : $\mathbf{3.009 \times 10^{-5}}$

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

Answer : $\mathbf{1.9995 \times 10^3}$

3) $(7 \times 10^{-2}) - (8 \times 10^{-4})$

Answer : $\mathbf{6.92 \times 10^{-2}}$

4) $(3 \times 10^4) + (6 \times 10^8)$

Answer : $\mathbf{6.0003 \times 10^8}$

5) $(5 \times 10^{-5}) + (4 \times 10^{-2})$

Answer : $\mathbf{4.005 \times 10^{-2}}$

6) $(8 \times 10^6) - (3 \times 10^2)$

Answer : $\mathbf{7.9997 \times 10^6}$

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

Answer : $\mathbf{6.9994 \times 10^9}$

8) $(4 \times 10^{-1}) + (9 \times 10^3)$

Answer : $\mathbf{9.0004 \times 10^3}$