

Name : \_\_\_\_\_

Score : \_\_\_\_\_

## Scientific Notation

Simplify and express in scientific notation:

Example 1

$$\begin{aligned}(2 \times 10^4) + (3 \times 10^5) \\ &= (2 \times 10^4) + (3 \times 10^4) \times 10 \\ &= (2 \times 10^4) + (30 \times 10^4) \\ &= 32 \times 10^4 \\ &= \mathbf{3.2 \times 10^5}\end{aligned}$$

Example 2

$$\begin{aligned}(7 \times 10^8) - (4 \times 10^6) \\ &= (7 \times 10^6) \times 10^2 - (4 \times 10^6) \\ &= (700 \times 10^6) - (4 \times 10^6) \\ &= 696 \times 10^6 \\ &= \mathbf{6.96 \times 10^8}\end{aligned}$$

Simplify each problem and express the answer in scientific notation.

1)  $(2 \times 10^3) + (5 \times 10^5)$

Answer : \_\_\_\_\_

2)  $(4 \times 10^8) - (9 \times 10^7)$

Answer : \_\_\_\_\_

3)  $(8 \times 10^9) - (3 \times 10^7)$

Answer : \_\_\_\_\_

4)  $(5 \times 10^7) + (1 \times 10^6)$

Answer : \_\_\_\_\_

5)  $(4 \times 10^2) + (7 \times 10^3)$

Answer : \_\_\_\_\_

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

Answer : \_\_\_\_\_

7)  $(1 \times 10^6) - (8 \times 10^4)$

Answer : \_\_\_\_\_

8)  $(5 \times 10^9) + (3 \times 10^8)$

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**Answer key**

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Example 2

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Simplify each problem and express the answer in scientific notation.

1)  $(2 \times 10^3) + (5 \times 10^5)$

Answer :  $\mathbf{5.02 \times 10^5}$

2)  $(4 \times 10^8) - (9 \times 10^7)$

Answer :  $\mathbf{3.1 \times 10^8}$

3)  $(8 \times 10^9) - (3 \times 10^7)$

Answer :  $\mathbf{7.97 \times 10^9}$

4)  $(5 \times 10^7) + (1 \times 10^6)$

Answer :  $\mathbf{5.1 \times 10^7}$

5)  $(4 \times 10^2) + (7 \times 10^3)$

Answer :  $\mathbf{7.4 \times 10^3}$

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

Answer :  $\mathbf{8.4 \times 10^5}$

7)  $(1 \times 10^6) - (8 \times 10^4)$

Answer :  $\mathbf{9.2 \times 10^5}$

8)  $(5 \times 10^9) + (3 \times 10^8)$

Answer :  $\mathbf{5.3 \times 10^9}$