

Name : _____

Score : _____

Scientific Notation

Add/Sub: ES1

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

Answer : _____

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Answer key

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

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