

HW Worksheet: Adding & subtracting with Scientific Notation

Name: _____

Evaluate each expression. Express the result in Scientific Notation. Show all work!

1.) $(2.85 \times 10^7) + (1.61 \times 10^9)$

$$.0285 \times 10^9 + 1.61 \times 10^9$$

$$\begin{array}{r} 1.61 \\ .0285 \\ \hline \end{array}$$

$$\boxed{1.6385 \times 10^9}$$

2.) $(6.3 \times 10^5) + (2.7 \times 10^6)$

$$.63 \times 10^6 + 2.7 \times 10^6$$

$$\begin{array}{r} .63 \\ 2.7 \\ \hline \end{array}$$

$$\boxed{3.33 \times 10^6}$$

3.) $(8.9 \times 10^9) + (4.2 \times 10^6)$

$$8.9 \times 10^9 + .0042 \times 10^9$$

$$\begin{array}{r} 8.9 \\ .0042 \\ \hline \end{array}$$

$$\boxed{8.9042 \times 10^9}$$

4.) $(9.64 \times 10^8) - (5.29 \times 10^6)$

$$9.64 \times 10^8 - .0529 \times 10^8$$

$$\begin{array}{r} 9.64 \\ ^{\text{139}} \\ ^{\text{139}} \\ \hline \end{array}$$

$$\begin{array}{r} 9.64 \\ ^{\text{139}} \\ ^{\text{139}} \\ - .0529 \\ \hline \end{array}$$

$$\boxed{9.5871 \times 10^8}$$

5.) $(6.45 \times 10^9) - (8.27 \times 10^7)$

$$6.45 \times 10^9 - .0827 \times 10^9$$

$$\begin{array}{r} 6.45 \\ ^{\text{149}} \\ ^{\text{149}} \\ - .0827 \\ \hline \end{array}$$

$$\boxed{6.3673 \times 10^9}$$

6.) $(1.35 \times 10^6) - (1.17 \times 10^5)$

$$1.35 \times 10^6 - .117 \times 10^6$$

$$\begin{array}{r} 1.35 \\ ^{\text{4}} \\ ^{\text{4}} \\ - .117 \\ \hline \end{array}$$

$$\boxed{1.233 \times 10^6}$$

7.) $(5.4 \times 10^3) + (6.8 \times 10^5)$

$$.054 \times 10^5 + 6.8 \times 10^5$$

$$\begin{array}{r} 6.8 \\ + .054 \\ \hline \end{array}$$

$$\boxed{6.854 \times 10^5}$$

8.) $(9.5 \times 10^{11}) + (6.3 \times 10^9)$

$$9.5 \times 10^{11} + .063 \times 10^{11}$$

$$\begin{array}{r} 9.5 \\ + .063 \\ \hline \end{array}$$

$$\boxed{9.563 \times 10^{11}}$$

* 9.) $(1.03 \times 10^9) - (4.7 \times 10^7)$

$$\begin{array}{r} 1.03 \times 10^9 - .047 \times 10^9 \\ \begin{array}{r} 9^{12} \\ 1.030 \\ - .047 \\ \hline 1.983 \end{array} \\ \hline 9.83 \times 10^8 \end{array}$$

10.) $(1.357 \times 10^9) + (5.9 \times 10^5)$

$$\begin{array}{r} 1.357 \times 10^9 + .00059 \times 10^9 \\ \begin{array}{r} 1.357 \\ + .00059 \\ \hline 1.35759 \end{array} \\ \hline 1.35759 \times 10^9 \end{array}$$

11.) $(8.71 \times 10^4) - (6.34 \times 10^1)$

$$\begin{array}{r} 8.71 \times 10^4 - .000634 \times 10^4 \\ \begin{array}{r} 0999 \\ 8.710000 \\ - .000634 \\ \hline 8.70366 \end{array} \\ \hline 8.70366 \times 10^4 \end{array}$$

12.) $(1.21 \times 10^5) - (9.5 \times 10^3)$

$$\begin{array}{r} 1.21 \times 10^5 - .095 \times 10^5 \\ \begin{array}{r} 1.210 \\ - .095 \\ \hline 1.115 \end{array} \\ \hline 1.115 \times 10^5 \end{array}$$

13.) There are approximately 4.5×10^3 species of mammals on Earth and 2.8×10^4 species of fish. What is the difference in the number of species?

$$\begin{array}{r} \rightarrow 2.8 \times 10^4 - 4.5 \times 10^3 \\ 2.8 \times 10^4 - .45 \times 10^4 \\ \begin{array}{r} 2.8 \\ - .45 \\ \hline 2.35 \end{array} \\ \hline 2.35 \times 10^4 \end{array}$$

14.) The population of China is 1.3×10^9 . The US population is 3.1×10^8 . The population of India is 1.2×10^9 . What is the total population of the three countries?

$$\begin{array}{r} 1.3 \times 10^9 + 3.1 \times 10^8 + 1.2 \times 10^9 \\ 1.3 \times 10^9 + .31 \times 10^9 + 1.2 \times 10^9 \\ \begin{array}{r} 1.3 \\ .31 \\ 1.2 \\ \hline 2.81 \end{array} \\ \hline 2.81 \times 10^9 \end{array}$$

Over \rightarrow