**Scientific Notation: Advanced Addition and Subtraction**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

Solve the following problems by adding or subtracting the numbers expressed in scientific notation. Simplify your answers and express them in scientific notation. Note that some problems may involve different exponents.

 **Open Ended Questions**

1. Add the following numbers: $3.2×10^{5}+4.8×10^{6}$

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Subtract the following numbers: $7.5×10^{7}−2.5×10^{8}$

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Add the following numbers: $1.7×10^{4}+3.3×10^{5}$

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Subtract the following numbers: $9.6×10^{3}−4.6×10^{4}$

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Add the following numbers: $2.4×10^{7}+5.6×10^{8}$

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Subtract the following numbers: $6.3×10^{8}−1.3×10^{9}$

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Multiple Choice Questions**

1. Add the following numbers: $3.45×10^{5}+5.55×10^{5}$

a) $9.0×10^{5}$

b) $8.0×10^{5}$

c) $9.0×10^{6}$

d) $7.0×10^{5}$

2. Subtract the following numbers: $8.75×10^{6}−3.25×10^{6}$

a) $5.5×10^{6}$

b) $6.5×10^{6}$

c) $5.5×10^{5}$

d) $4.5×10^{6}$

3. Add the following numbers: $2.35×10^{4}+4.65×10^{4}$

a) $7.0×10^{4}$

b) $6.0×10^{4}$

c) $7.0×10^{5}$

d) $5.0×10^{4}$

4. Subtract the following numbers: $1.96×10^{3}−0.96×10^{3}$

a) $1.0×10^{3}$

b) $0.5×10^{3}$

c) $1.0×10^{4}$

d) $2.0×10^{3}$

5. Add the following numbers: $4.25×10^{7}+3.75×10^{7}$

a) $8.0×10^{7}$

b) $7.0×10^{7}$

c) $8.0×10^{6}$

d) $9.0×10^{7}$

6. Subtract the following numbers: $7.85×10^{8}−2.85×10^{8}$

a) $5.0×10^{8}$

b) $6.0×10^{8}$

c) $5.0×10^{7}$

d) $4.0×10^{8}$

**Scientific Notation: Advanced Addition and Subtraction - Answers**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

Solve the following problems by adding or subtracting the numbers expressed in scientific notation. Simplify your answers and express them in scientific notation. Note that some problems may involve different exponents.

 **Open Ended Questions**

1. Add the following numbers: $3.2×10^{5}+4.8×10^{6}$

*First, convert* $3.2×10^{5}$ *to* $0.32×10^{6}$*. Then, add the coefficients:* $0.32+4.8=5.12$*. The result is* $5.12×10^{6}$*.*

2. Subtract the following numbers: $7.5×10^{7}−2.5×10^{8}$

*First, convert* $7.5×10^{7}$ *to* $0.75×10^{8}$*. Then, subtract the coefficients:* $0.75−2.5=−1.75$*. The result is* $−1.75×10^{8}$*.*

3. Add the following numbers: $1.7×10^{4}+3.3×10^{5}$

*First, convert* $1.7×10^{4}$ *to* $0.17×10^{5}$*. Then, add the coefficients:* $0.17+3.3=3.47$*. The result is* $3.47×10^{5}$*.*

4. Subtract the following numbers: $9.6×10^{3}−4.6×10^{4}$

*First, convert* $9.6×10^{3}$ *to* $0.96×10^{4}$*. Then, subtract the coefficients:* $0.96−4.6=−3.64$*. The result is* $−3.64×10^{4}$*.*

5. Add the following numbers: $2.4×10^{7}+5.6×10^{8}$

*First, convert* $2.4×10^{7}$ *to* $0.24×10^{8}$*. Then, add the coefficients:* $0.24+5.6=5.84$*. The result is* $5.84×10^{8}$*.*

6. Subtract the following numbers: $6.3×10^{8}−1.3×10^{9}$

*First, convert* $6.3×10^{8}$ *to* $0.63×10^{9}$*. Then, subtract the coefficients:* $0.63−1.3=−0.67$*. The result is* $−0.67×10^{9}$*.*

 **Multiple Choice Questions**

1. Add the following numbers: $3.45×10^{5}+5.55×10^{5}$

a) $9.0×10^{5}$

b) $8.0×10^{5}$

c) $9.0×10^{6}$

d) $7.0×10^{5}$

2. Subtract the following numbers: $8.75×10^{6}−3.25×10^{6}$

a) $5.5×10^{6}$

b) $6.5×10^{6}$

c) $5.5×10^{5}$

d) $4.5×10^{6}$

3. Add the following numbers: $2.35×10^{4}+4.65×10^{4}$

a) $7.0×10^{4}$

b) $6.0×10^{4}$

c) $7.0×10^{5}$

d) $5.0×10^{4}$

4. Subtract the following numbers: $1.96×10^{3}−0.96×10^{3}$

a) $1.0×10^{3}$

b) $0.5×10^{3}$

c) $1.0×10^{4}$

d) $2.0×10^{3}$

5. Add the following numbers: $4.25×10^{7}+3.75×10^{7}$

a) $8.0×10^{7}$

b) $7.0×10^{7}$

c) $8.0×10^{6}$

d) $9.0×10^{7}$

6. Subtract the following numbers: $7.85×10^{8}−2.85×10^{8}$

a) $5.0×10^{8}$

b) $6.0×10^{8}$

c) $5.0×10^{7}$

d) $4.0×10^{8}$