SIGNIFICANT FIGURES

1. Rewrite the following numbers using scientific notation:

   a) 476
   b) 0.00367
   c) 549×10^3
   d) 0.0000069
   e) 9546.3
   f) 0.00485×10^7
   g) 264×10^{-5}
   h) 4795
   i) 67.09
   j) 100.

2. How many significant figures are there in each of the following numbers?

   a) 16.0
   b) 54,056
   c) 1000.
   d) 0.00594
   e) 207.3
   f) 10
   g) 5.2×10^7
   h) 1.68×10^{-9}
   i) 2007
   j) 5×10^2

3. Round the following numbers to three significant figures and use scientific notation where appropriate:

   a) 7894
   b) 0.00003982
   c) 100378
   d) 19047×10^{-2}
   e) 2345
   f) 3.075

4. Perform the following mathematical operations and express your answers to the proper number of significant figures:

   a) $645 \times 2.0 \times 167.8$
   b) $0.045 \times 128.2 \times 34.6$
   c) $190.4 + 12 + 0.69$
   d) $26.6 \times (3.7 \times 10^2)$
   e) $(3.65 \times 10^4) \times (2.1 \times 10^2)$
   f) $(4.3 \times 10^3)^5$
   g) 2597/42
   h) $12.0/1.8 \times 10^{23}$
   i) $3.006/4.68 \times 10^{-4}$
   j) $1.2 + 45.81 + 0.186$

SIGNIFICANT FIGURES

1. Rewrite the following numbers using scientific notation:

a) 476 4.76×10^2
b) 0.00367 3.67×10^{-3}
c) 549×10^3 5.49×10^5
d) 0.0000069 6.9×10^{-6}
e) 9546.3 9.5463×10^3
f) 0.00485×10^7 4.85×10^4
g) 264×10^{-5} 2.64×10^{-3}
h) 4795 4.795×10^3
i) 67.09 6.709×10^1
j) 100. 1.00×10^2

2. How many significant figures are there in each of the following numbers?

a) 16.0 3
b) 54,056 5
c) 1000. 4
d) 0.00594 3
e) 207.3 4
f) 10 1
g) 5.2×10^7 2
h) 1.68×10^{-9} 3
i) 2007 4
j) 5×10^2 1

3. Round the following numbers to three significant figures and use scientific notation where appropriate:

a) 7894 7890 or 7.89×10^3
b) 0.00003982 0.0000398 or 3.98×10^{-5}
c) 100378 1.00×10^5
d) 19047×10^{-2} 190. or 1.90×10^2
e) 2345 2350 or 2.35×10^3
f) 3.075 3.08

4. Perform the following mathematical operations and express your answers to the proper number of significant figures:

a) $645 \times 2.0 \times 167.8$
b) $0.045 \times 128.2 \times 34.6$
c) $190.4 + 12 + 0.69$
d) $26.6 \times (3.7 \times 10^2)$
e) $(3.65 \times 10^4) \times (2.1 \times 10^2)$
f) $(4.3 \times 10^3)^5$
g) 2597/42
h) $12.0/1.8 \times 10^{23}$
i) $3.006/4.68 \times 10^{-4}$
j) $1.2 + 45.81 + 0.186$

a) 220,000 or 2.2×10^5
b) 2.0×10^2 not 200
c) 203
d) 9,800 or 9.8×10^2
e) 7.7×10^6 or 7,700,000
f) 1.5×10^{18} $(4.3^5 \times 10^{15})$
g) 62
h) 6.7×10^{-23}
i) 6420 or 6.42×10^3
j) 47.2