

Key

Significant Figures Worksheet

1. Determine the number of significant digits in each of the following:

- | | | |
|-----------------------------|---------------------------|----------------------------|
| a) 6.571 g ⁴ | f) 30.07 g ⁴ | k) 54.52 cm ⁴ |
| b) 0.157 kg ³ | g) 0.106 cm ³ | l) 0.12090 mm ⁵ |
| c) 28.0 ml ³ | h) 0.0067 g ² | m) 2.690 g ⁴ |
| d) 2500 m ² | i) 0.0230 cm ³ | n) 43.07 cm. ⁴ |
| e) 0.0700000 g ⁶ | j) 26.509 cm ⁵ | |

2. Add:

- a) $16.5 + 8 + 4.37 = 29$
b) $13.25 + 10.00 + 9.6 = 32.9$
c) $2.36 + 3.38 + 0.355 + 1.06 = 7.16$
d) $0.0853 + 0.0547 + 0.0370 + 0.00387 = 0.1809$
e) $25.37 + 6.850 + 15.07 + 8.056 = 55.35$

3. Subtract:

- a) $23.27 - 12.058 = 11.21$
b) $13.57 - 6.3 = 7.3$
c) $350.0 - 200 = 200$ (round to 100's)
d) $27.68 - 14.369 = 13.31$

4. Multiply:

- a) $2.6 \times 3.78 = 9.8$
b) $6.54 \times 0.37 = 2.4$
c) $3.15 \times 2.5 \times 4.00 = 32$
d) $0.085 \times 0.050 \times 0.655 = 0.0028$
e) $3.08 \times 5.2 = 16$
f) $0.0036 \times 0.02 = 7.2 \times 10^{-5} = 7 \times 10^{-5}$
g) $4.35 \times 2.74 \times 3.008 = 35.9$
h) $35.7 \times 0.78 \times 2.3 = 64$

5. Divide:

- a) $35 / 0.62 = 56$
b) $39 / 24.2 = 1.6$
c) $0.58 / 2.1 = 0.28$
d) $40.8 / 5.05 = 8.08$
e) $3.76 / 1.62 = 2.32$
f) $0.075 / 0.030 = 2.5$

6. Express the Following in Scientific Notation:

- a) 0.000 03 3×10^{-5}
b) 8 000 000 8×10^6
c) 55 000 000 5.5×10^7
d) 0.002 2×10^{-3}
e) 0.000 007 7×10^{-6}
f) 65 000 6.5×10^4

7. Do the Following Calculations Using Scientific Notation:

- a) $0.0005 \times 0.002 = 5 \times 10^{-4} \times 2 \times 10^{-3} = 1 \times 10^{-6}$
b) $5000\ 000 \times 6000 = 3 \times 10^6 \times 6 \times 10^3 = 1.8 \times 10^{10}$
c) $65\ 000 \times 0.003 = 6.5 \times 10^4 \times 3 \times 10^{-3} = 2 \times 10^2$
d) $750\ 000 \times 20\ 000 \times 3000 = 7.5 \times 10^5 \times 2 \times 10^4 \times 3 \times 10^3 = 4.5 \times 10^{13} = 5 \times 10^{13}$
e) $9\ 000 / 300 = 3 \times 10^1$
f) $400 / 20\ 000 = 2 \times 10^2 / 2 \times 10^4 = 1 \times 10^{-2}$
g) $0.008 / 0.00002 = 4 \times 10^{-2} / 2 \times 10^{-5} = 2 \times 10^3$
h) $(60\ 000 \times 7000) / 1000 = 4.2 \times 10^5 = 4 \times 10^5$
i) $(0.0006 \times 0.002) / 0.0003 = 4 \times 10^{-3}$
j) $(0.0006 \times 8000) / 120 = 4 \times 10^{-2}$
k) $(400\ 000 \times 0.0008 \times 3\ 000) / (0.0002 \times 0.0006) = 8 \times 10^{12}$