

CHEM 1200 & 1251

Adding, Subtracting, Multiplying, Dividing Significant Figures

Adding & Subtracting

- Significant figures are limited to the smallest amount of sig figs after the decimal place.

Multiplying & Dividing

- Significant figures are limited to the smallest amount of sig figs total

* Do not round to sig figs until the very end!

Examples:

1) $2.\underline{01} + 7.\underline{635} = 9.\underline{645} = \boxed{9.65}$
limited to 2 sig figs after decimal

2) $36.381 - 14.\underline{\quad} = \underline{22}.381 = \boxed{22}$
zero after decimal

3) $\underline{931} \times \underline{2.765} = \underline{2574.215} = \boxed{2.57 \times 10^3}$
limited to 3 sig figs total

4) $\underline{48,661.010} \div \underline{8235.1} = 5.908976212 = \boxed{5.9089}$
limited to 5 sig figs total

Practice:

$$5) 24.7 + 36.11$$

$$6) 84.1 \times 10^3 \div 240$$

$$7) 7006 - 85.19$$

$$8) 5.06 \times 91.4$$

$$9) (22.3 + 7.101) \div 4$$

$$10) (36.8 \cdot 20) - 27.10$$

$$11) (84.5 + 73.7) \cdot (26.287 \div 400)$$

$$12) (72.1 \div 0.004) + (83.2 - 74.01)$$

Key:

5) 60.8

6) 3.5×10^2

7) 6921

8) 462

9) 7

10) 709

11) 2×10^6

12) 9.5