<u>QuIz</u> - Graphing Linear Data

• Plot a graph of <u>y vs x</u>

- title
- axes labelled (units)
- use a consistent scale
- axes start at (0,0), no squiggles!
- don't connect the points
- line of best fit
- use a full sheet of graph paper

• Find the equation of the line of best fit
(use appropriate variables)

- show your work
- calculate "b" (do not eye ball)

• Use the graph or equation to make a
prediction. Two types of predictions:

interpolation - within the data

extrapolation - outside the data
- not reliable
- the trend might change
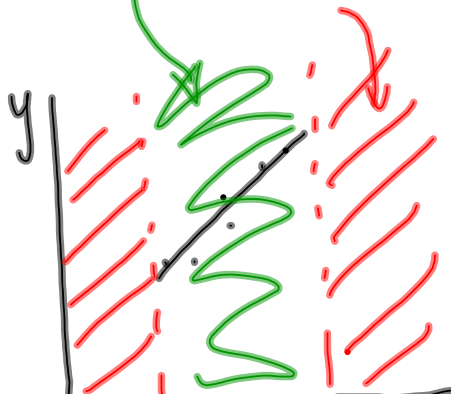
Calculations with Significant Digits

Adding | Subtracting

$$25.\underline{3} \quad g$$
$$14\underline{8} \quad g$$
$$+ \quad 1.4\underline{2} \quad g$$

$$174.\underline{7}\underline{2} \quad g$$

$$\boxed{175g} \quad \uparrow \text{ round to 1 uncertain digit}$$

Round the final answer to the least precise place value.

Multiplying | Dividing

$$14.\underline{8} \quad m \quad (3sd)$$
$$\times \quad 1.\underline{2} \quad m \quad (2sd)$$

$$\underline{2}\underline{9}\underline{6}$$
$$1\underline{4}\,8$$

$$1\underline{7}.\underline{7}\underline{6} \quad m^2$$

$$\boxed{18 \, m^2} \quad \uparrow \text{ can only have 1 uncertain digit}$$
$$\boxed{2sd}$$

Round your final answer to the least number of significant digits.

$$+ | - \Rightarrow \text{place value}$$
$$\times | \div \Rightarrow \text{s.d.s}$$

BASIC SKILL

21. $\dfrac{2.674\,m}{2.0\,m} = 1.337$ (2sd)

     2sd

$$\doteq 1.3$$

22. $5.25\,L \times 1.3\,L = 6.825\ L^2$ 2sd   2sd

$$\doteq 6.8\ L^2$$

What if you wanted to use 3sd?

$6.82 \leftarrow$ round to even #

23. $9.0\,cm + 7.66\,cm + 5.44\,cm = 22.10\ cm$

   place value

Least precise

$$= 22.1\ cm$$

24. $10.07\,g - 3.1\,g = 6.97\ g$

least precise

$$\doteq 7.0\ g$$

TO DO:

① Finish Smartie Lab (due Wed)

② Physics: A Mathematical Science (handout)
     - use red book (PPP) - Chapter 2

③ REVIEW: #2