Mistakes Document(Maths)

General Advice:

- (Add any general advice that you keep making mistakes on in this section)

Insert name of chapter

- (mistake 1)

Insert name of chapter

- (mistake 1)

Insert name of chapter

- (mistake 1)

Example of my physics mistake document for inspiration:

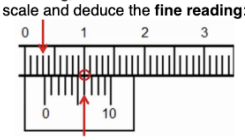
Mistakes Document:

Tuesday, 10 October 2023 20:51

General

- When drawing a gradient draw a **BIG** triangle
- Give results to the **lowest s.f** of the values given in the questions(Do this only with the final result)
- Include **UNITS** (Dedicate a minute or two at the end of the test to look over units+significant)
- Read **entire** question before answering the question
- Try spend a **minute per mark** (not longer)
- Remember to **ignore/strike** any anomalies when using mean calculations
- When answering **explain** questions, answer the question **directly** and then ask yourself **why** and then expand on this point
  - Try use as many **keywords** as possible (eg especially explain questions)
- Be **specific** whilst writing the method to an experiment

3.1 Measurements and Uncertainties

- Solve the equation **first** and then do uncertainty calculation **after.**
- Vernier callipers are used for small sizes whereas micrometers are used for even smaller sizes(e.g the diameter of a thin wire)
- To use a vernier calliper, use the **vernier scale**(from the **zero**) to measure the basic reading, and then look at where the vernier scale lines up **perfectly** with the scale and deduce the **fine reading**:
  - 

    - This example would be **0.36+-0.01**(There may be a slight discrepancy with the reading hence why there is]the uncertainty)
- A common way to reduce percentage/fractional uncertainty is to **increase the amount of data collected** (eg larger volume collected).
- Assume the question is talking about **absolute uncertainty** unless clearly stated as percentage uncertainty.
  - Absolute uncertainties **must** contain **units**
- When doing uncertainty calculations (ESPECIALLY PERCENTAGE UNCERTAINTIES) - write out the **entire** calculation before typing in the calculator
- Taking a mean **reduces** the **effect** of random errors and enables us to **reject** anomalies.