Physics

Task One: Complete both Logical Tasks (parts one and two) attached to this document

Task Two: Pick two tasks from the smorgasbord of tasks below.

Produce a timeline for the discovery of particles, from the (Dalton model) atom to now. For each new model, explain how new evidence led to new theories.	Find 5 common physics misconceptions on YouTube and ask 5-10 people their understanding. Write a brief report of your findings.	Write an essay about the changing theories of light over time. Include details of key concepts, experiments and scientists.
Obtain a copy of a Physics Review, Focus or New Scientist magazine and write a summary of one interesting physics article.	Is CERN's LHC a waste of money? Write a report (up to 500 words)	The Chernobyl accident in 1986 was devastating. At the time people said that this accident could not have happened in the West, as it could have only happened with an RMBK reactor. Write a brief report to discuss whether this was true or not.

Suggested book/reading list:

Surname, Initial.*, **Title of book** (Publisher, Year of Publication).

- CGP Ltd, **Head Start to A level Physics** (CGP, 2015)
- Millar, C et al, **Practice in Physics Fourth Edition** (Hodder, 2011)
- Johnson K et al, **Advanced Physics For You Second Edition** (OUP, 2015)
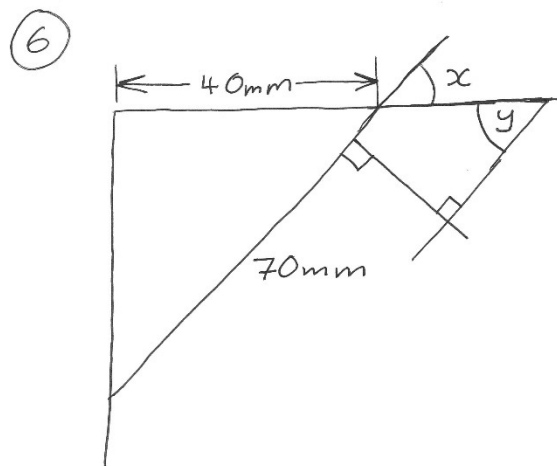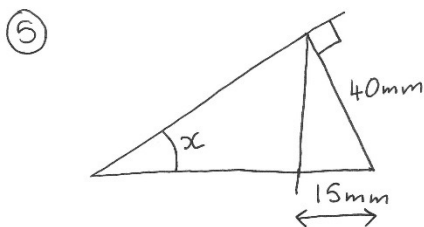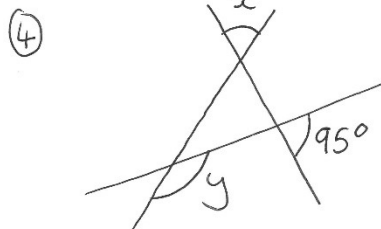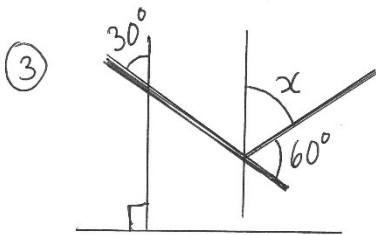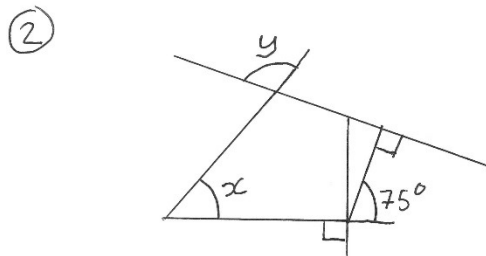- Tear, C., **Maths Skills for A level Physics** (Nelson Thornes, 2013)
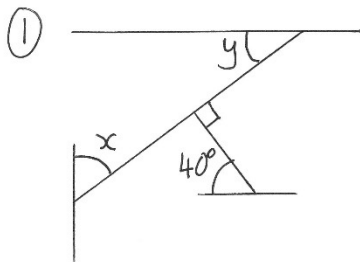
Second-hand books can be bought cheaply on Amazon and second-hand book shops. Earlier or later editions are just as useful, so long as they are not too old.

Physics
Logical Task – Part 1
Geometry

Please find the missing angles (labelled with a letter e.g. x). The diagrams are not to scale, therefore you must use geometry rules and arithmetic to find the missing values.

① y, x, $40°$

② y, x, $75°$

③ $30°$, x, $60°$

④ x, $95°$, y

⑤ x, $40mm$, $15mm$

⑥ $40mm$, x, y, $70mm$

Physics
Logical Task – Part 2
Rearranging Equations

Please rearrange each equation to make the subject in the next column.

Equation	Subject	Solution
$\varepsilon = I(R + r)$	R	
$\rho = \dfrac{RA}{L}$	L	
$\rho = \dfrac{RA}{L}$	A	
$v^2 = u^2 + 2as$	u	
$s = \dfrac{(u + v)}{2}t$	u	
$s = ut + \dfrac{at^2}{2}$	a	
$T(\cos A)L + T(\cos B)H = 0$	T	
$F(\cos A)L + W(\cos B)H = 0$	F	