Harry Potter and the Conversion of Units – Part 1 – Answers

Harry, Hermione and Ron are having some issues with units whilst making potions, designing wands and various other tasks set for Hogwarts' homework.

Can you help them convert the amounts below to the amounts required?

Task 1 – units of length		
Item	Units given	Units required
Elder (for a wand)	0.42 metres	42cm
Anti-Cheating Quill	14.8 centimetres	148mm
Spellotape	0.041 kilometres	41m
Broomstick	2830 millimetres	2.83m
Spell-Checking Quill	0.0000125 kilometres	1.25cm

Task 2 – units of mass		
Item	Units given	Units required
Philosopher's Stone	2300 grams	2.3kg
Ton-Tongue Toffees	82100 milligrams	82.1g
Godric Gryffindor's Sword	0.0067 tonnes	6.7kg
Floo Powder	0.047 grams	47mg
Slytherin's Locket	0.362 kilograms	362g

Task 3 – units of capacity		
Item	Units given	Units required
Headless Hat	1.54 litres	1540ml
Goblet of Fire	720 millilitres	72cl
Mokeskin Pouch	83 centilitres	830ml
Portable Swamp	12865 centilitres	128.65l
Cauldron	15872 millilitres	15.872l

Harry, Hermione and Ron have some challenge Hogwarts homework.

Can you give them a hand with these?

Challenge Questions		
Item	Units given	Units required
The volume of a Vanishing Cabinet	2,500,000cm^3	2.5m^3
The volume of Moody's Magical Trunk	13,500cm^3	13.5l
The area of the circle in Marvolo Gaunt's Ring	323mm^2	3.23cm^2
The area of a Flying Carpet	0.0000156km^2	15.6m^2
The volume of a Quidditch Ball	4670mm^3	4.67cm^3
The volume of a Remembrall	6490mm^3	6.49ml
The volume of Tom Riddle's Diary	0.000593m^3	593cm^3
The volume of a Gobstone	1.68cm^3	1680mm^3

Harry will return in another mathematical adventure...