

Question 1

Question	Answers	Extra Information	Mark
01.1	give the student some weights to carry	If more than two boxes are ticked, subtract one mark for each incorrect box. Do not award less than 0 marks.	1
	swap the student’s shoes for ones with a smaller area of sole touching the ground		1
01.2	$\frac{490}{0.04}$	A correct answer with no working scores 2 marks.	1
	12 250 (Pa)		1
01.3	0.4×0.5	A correct answer with no working scores 2 marks.	1
	$0.2 \text{ (m}^2\text{)}$		1
01.4	2750×0.2	Allow error carried forward from 01.3 . A correct answer with no working scores 2 marks.	1
	550 (N)		1
Total			8

Question 2

Question	Answers	Extra Information	Mark
02.1	wood	If more than one box is ticked award 0 marks.	1
02.2	larger sink or less float	Answers in this order only. Both words must be correct to be awarded the mark.	1
02.3	$\frac{250}{10}$		1
	25 (g/cm ³)	A correct answer with no working scores 2 marks.	1
02.4	0.3 × 30		1
	9 (g)	A correct answer with no working scores 2 marks.	1
02.5	(object) 3		1
02.6	the mass balance is used to measure the <u>mass</u> of the object	Do not allow weight for mass.	1
	the ruler is used to measure the length of the edges/width, height and depth of the object		1
	volume of the object is calculated by multiplying the length of the edges	Allow volume = width × height × depth	1
	density is calculated by dividing the mass of the object by its volume	Allow density = $\frac{\text{mass}}{\text{volume}}$	1
Total			11

Question 3

Question	Answers	Extra Information	Mark
03.1	upthrust weight	If more than two boxes are ticked, subtract one mark for each incorrect box. Do not award less than 0 marks.	1 1
03.2	(when the ballast tanks fill with water) the weight of the submarine increases		1
03.3	the shape (and size) of the submarine doesn't change		1
03.4	to sink, upthrust must be less than weight	Do not accept an answer based on density alone.	1
03.5	liquid pressure increases with depth as you get deeper, the weight of the water above you increases the water through holes nearer the bottom of the bottle will be squeezed out with a larger pressure/force, making the stream travel further from the bottle		1 1 1
Total			8