

Question number	Answer	Notes	Marks
4 (a) (i)	pressure = force ÷ area;	pressure = force ÷ area area = force ÷ pressure force = pressure x area Accept standard symbols (P, F, A) – upper or lower case acceptable for this item REJECT relationship 'triangle' on its own	1
(ii)	Substitution into correct equation / 8 times the force; Calculation; e.g. pressure = $8 \times 0.036 \div 0.0013 =$ 220 (Pa)	Correct final value = 2 irrespective of working Final value of 27.7 or 28 scores 1 (since it is a correct calculation that has missed the x8 factor) ALLOW 222 (Pa), 221.5..... (Pa), 220 (Pa) for final value NO significant figure penalty	2
(b) (i)	(total) force is unchanged / the same; same mass/number/weight (of coins);	ACCEPT 'force is the same because the weight is the same'=2 'force is the same because the mass is the same'=2	2
(ii)	Reduced / less; ONE of - (reduced) by a factor of 8; <u>same</u> mass/weight/force spread over a larger area; calculates the new pressure;	NOT ACCEPT 'larger surface area' alone	1 1

Total 7 Marks