

BASIC PHYSICS ANSWERS OCR ALEVEL YEAR 1

1.

Question	Expected Answers	Marks	Additional Guidance
1 (a)	Correct lines from: <ul style="list-style-type: none"> joule (J) to N m watt (W) to J s⁻¹ newton (N) to kg m s⁻² 	B2	Note: 2 marks for all correct 1 mark for two correct 0 marks for none or one correct
(b) (i)	weight in the range 200 to 1200 (N)	B1	
(ii)	area in the range 0.01 to 0.08 (m ²)	B1	
(iii)	pressure = (b)(i)/b(ii)	B1	Allow: 1 sf answer
Total		5	

2.

a	work done → N m stress → N m ⁻² density → kg m ⁻³	B2	Allow 2 marks if all correct Allow 1 mark if one or two responses are correct
b(i)	weight / gravitational force	B1	Not 'gravity'
b(ii)	(force =) 4.8 × 9.81 (= 47.1 N) pressure = $\frac{4.8 \times 9.81}{0.085 \times 0.085}$ pressure = 6.52 × 10 ³ (Pa)	C1 A1	Note: 2 marks for bald 2 sf answer of 6.5 × 10 ³ (Pa) Allow 1 mark for '48/0.085 ² = 6.64 × 10 ³ '; g taken as 10 (N kg ⁻¹) Allow 1 mark for '4.8 × 9.81/8.5 ² = 0.65' Not 'mass/area' since it is 'wrong physics'.
b(iii)	8 4 2	B1 B1 B1	This must be consistent with the values for mass and cross-sectional area.
Total		8	

3.

Question	Answer	Marks	Guidance
	Lines joining density to 'kg m ⁻³ ' pressure to 'kg m ⁻¹ s ⁻² ' power to 'kg m ² s ⁻³ '	B1×2	Note: All correct – 2 marks, deduct 1 mark for each error or omission. (Minimum score = 0)
Total		2	