

Question Number	Answer	Mark
13(a)	<div data-bbox="577 377 1032 831" data-label="Diagram"> </div> <div data-bbox="1347 760 1388 828" data-label="Text"> <p>(1) (1)</p> </div> <p data-bbox="288 890 1289 1059">Horizontal arrow pointing to the left labelled "reaction (force from the wall on the hook)" Arrow drawn below screw and not lower than last point of contact between hook and wall MP2 depends upon MP1</p>	2
13(b)	<div data-bbox="288 1128 1133 1264" data-label="List-Group"> <ul style="list-style-type: none"> Use of moment of force = $F x$ Use of principle of moments Use of $W = m g$ Correct calculation leading to conclusion no (as maximum is two coats) </div> <div data-bbox="1347 1128 1388 1264" data-label="Text"> <p>(1) (1) (1) (1)</p> </div> <p data-bbox="288 1298 852 1467"><u>Example of calculation</u> $150 \text{ N} \times 0.009 \text{ m} = W \times 0.025 \text{ m}$ $W = 1.35 \text{ N m} \div 0.025 \text{ m} = 54.0 \text{ N}$ $m = 54.0 \text{ N} \div 9.81 \text{ N kg}^{-1} = 5.50 \text{ kg}$ $5.50 \text{ kg} \div 2.6 \text{ kg} = 2.12 \therefore \text{two coats max, so no.}$</p>	4
	Total for question 13	6