

Question number	Answer	Notes	Marks
7 a	(i) moment = force x (perpendicular) distance;		1
	(ii) correct distance used; substitution; rearrangement; evaluation; e.g. distance = 40 (cm) $4.8 = \text{force} \times 0.4$ (force =) $4.8/0.4$ (force =) 12 (N)	apply ecf if wrong distance chosen -1 for POT error 0.12, 16, 9.6 gain 3 marks 0.16, 0.096 gain 2 marks	4
b	use a longer spanner / apply force a greater distance from the {bolt / pivot} / apply a larger force; idea that force / distance needs to be 2x greater;	allow applying force at right angles to the spanner e.g. 12N applied at 80cm or 24N applied at 40cm	2

Total for question 7 = 7 marks