## Edexcel Maths GCSE - Product Rule for Counting (H)

<b>1</b> <sup>(a)</sup>	No with reason	C1	for "no" with reason, eg Tracey should multiply 8 and 7
(b)	66	M1	for starting a method to find number of games played, eg 12 $\times$ 11 (= 132) or sum of integers from 1 to 11
		A1	cao

2	240	M1	for start to method to find total number of matches, eg 16 × 15 or 16 <sup>2</sup> – 16 or 16 × 15 × 2 (= 480) or $\frac{16 \times 15}{2}$ (= 120)	Credit complete listing strategies
		A1	cao	

3	(a)	125	M1	for method to find the number of 3 digit combinations, eg $5^3$ or $5^3 - 1$	
			A1	for 125 or 124	
	(b)	60	M1	for method to find the number of combinations with 3 different digits eg $5 \times 4 \times 3$ or finds there are 65 combinations that do not have 3 different digits	
			A1	cao	

4	7	M1	method to find number of combinations, eg 19 $\times$ 25 oe (= 475) or for 3325 + 19 (= 175) or 3325 + 25 (= 133)	
		A1	cao	

5	Yes (supported)	P1	for process to find number of combinations, eg $5 \times 8$ oe (= 40) or for $240 \div 5$ (= 48) or $240 \div 8$ (= 30) or for $240 \div 5 \div 8$ (= 6) or $5 \times 8 \times x = 240$	
		C1	Yes and 6	

6	192 000	M1	for $16 \times 120 \times 100$ oe	
		A1	cao	