ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Secondary Education

Mathematics 4302
Specification B

Module 1 Tier H 43001H

Practice Paper

Mark Scheme

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The following abbreviations are used on the mark scheme:

M	Method marks awarded for a correct method.
A	Accuracy marks awarded when following on from a correct method. It is not necessary always to see the method. This can be implied.
B	Marks awarded independent of method.
M dep	A method mark which is dependent on a previous method mark being awarded.
ft	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
SC	Special Case. Marks awarded for a common misinterpretation which has some mathematical worth.
oe	Or equivalent.
eeoo	Each error or omission.

MODULE 1 HIGHER TIER 43001H

Note: Probability - Accept fraction, decimal or percentage. Do not accept ratio.
1 out of 3 or 1 in 3 penalise once on whole paper.

1	Not ordered	B1	Numerical answers only do not score <u>but</u> if no marks awarded allow SC1 for 69, 70, 72
	7 omitted in stem	B1	
	69 only appears once/or two 69's or only 14 values	B1	

2	$(0 \times 6) + (1 \times 7) + (2 \times 9) + (3 \times 4) + (4 \times 3) + (5 \times 1)$ or 54	M1	Attempt at $\sum fx$ at least 4 pairs seen
	their $54 \div 30$	M1 dep	
	1.8	A1	$60 \div 30$ with no working SC1

3(a)	475×0.6	M1	
	285	A1	
3(b)	425×0.48	M1	
	'285' + '204'	M1	
	489	A1	411 fully correct SC1 (number who study German)

4(a)	$\frac{3}{5}$ seen	B1	
	Complete drawing of tree diagram and label heads/tails	B1	
	All probabilities correctly labelled on tree	B1	
4(b)	$\left(\frac{2}{5}\times\frac{2}{5}\right)$ or $\left(\frac{2}{5}\times\frac{3}{5}\right)$ or $\left(\frac{3}{5}\times\frac{2}{5}\right)$	M1	$1 - \left(\frac{3}{5}\times\frac{3}{5}\right)$ M2
	$\frac{4}{25} + \frac{6}{25} + \frac{6}{25}$	M1	
	$\frac{16}{25}$	A1	oe

5	$1\ cm^2 = 2.5$ people or $17 \div 6.8$ seen	M1	$34 \div 17$ or 2 lines=1 person
	2.5×2.4	M1	$12 \div 2$
	6	A1	

6	Finding probability of 2 $1 – (0.2 + 0.4 + 0.1)$ or 0.3	M1	
	$0.3+0.1$ or 0.4 for 'at least' 2	M1	0.3×20 or 0.1×20
	0.4×20	M1	6+2
	8	A1	

7(a)	Two questions in one/Can't say yes to first part and no to second part	B1	
7(b)	Question about number of texts with time frame	B1	
	Response - Tick boxes not overlapping, no gaps, covers all possibilities	B1	
7(c)	Indicating 50th/51st item	M1	
	$10 \leq x < 20$	A1	

8(a)	32, 63, 75, 80	B1	
8(b)	Parts (b) and (c) must be from an attempt at an increasing cf diagram		
	Plotting at upper class boundaries	B1	
	Heights correct	B1 ft	$\pm \frac{1}{2}$ square
	Smooth curve or straight lines to join points	B1	$\pm \frac{1}{2}$ square
8(c)	'48'	B1 ft	

9(a)	$\frac{1}{2} \times \frac{4}{9}$	M1	
	$= \frac{2}{9}$	A1	Note: $\frac{4}{18}$ gets M1A0
9(b)	P(Danny passes) $= \frac{7}{15} \div \frac{3}{5}$ or $\frac{7}{15} \times \frac{5}{3}$	M1	
	$\frac{7}{9}$	A1	
	$\frac{2}{5} \times \frac{2}{9}$	M1	
	$\frac{4}{45}$	A1	