Countdown to your final Maths exam ... part 1 (2018)

Examiners Report & Markscheme

Mark Scheme

Q1.

Question	Working	Answer	Mark	Notes
		11	P1	Process to find total cycling,, e.g. 100 – 52 – 35 (= 13)
			P1	Complete process to find female running, e.g. 45 – (30 + ("13" –9))
			A1	cao
				OR
			P1	process to find male Gym (22) **or** male total (55)
			P1	complete process to find female running, e.g. 35 – ("55" – "22" – 9)
			A1	cao
				Note: the two-way table (or frequency tree) does not need to be fully complete

	G	R	C	T
M	**22**	**24**	9	**55**
F	30	**11**	**4**	45
T	52	35	**13**	100

Q2.

PAPER: 5MB1H_01

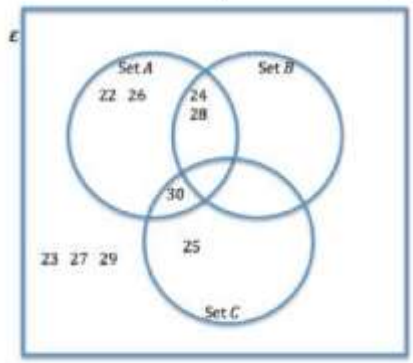
Question	Working	Answer	Mark	Notes
		34	4	M1 for a two-way table with clear labelling showing at least 3 values of the given information correctly placed M1 for 54 or 20 M1 for 9 or 12 A1 cao OR M1 for 37 – 17 (=20) M1 for 45 – ('20' + 16) (= 9) M1 for 25 + '9' (=34) A1 cao OR M1 for 99 – 45 (=54) M1 for 54 – (17 + 25) (=12) M1 for 99 – (37 + 12 + 16) (=34) A1 cao

	Co	Ju	Wa	Total
B	25		17	
G		16		45
Total			37	99

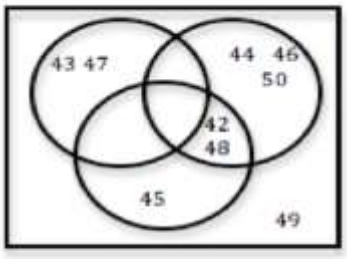
OR
37 – 17 = 20
45 – (20 + 16) = 9
25 + 9 =34

OR
99 – 45 =54
54 – (17 + 25) =12
99 – (37 + 12 + 16) = 34

Q3.

All 9 numbers placed correctly 	B3	B2 for any 7 or 8 numbers placed correctly, the other numbers omitted or incorrectly placed, OR B1 for any 5 or 6 numbers placed correctly, the other numbers omitted or incorrectly placed. *Any ambiguous duplicates are marked as an incorrect placement for that number*

Q4.

(a)(i) The numbers 42 to 50 placed correctly  	B3	B2 for 7 or 8 numbers placed correctly, the other 2 or 1 number(s) respectively omitted or incorrectly placed, OR B1 for 5 or 6 numbers placed correctly, the other 4 or 3 numbers respectively omitted or incorrectly placed
		In (a)(ii) and (b) ignore incorrect cancelling.
(ii) 2/9	B1	Or FT their Venn diagram
7/9	B1	FT 1 – 1st answer
0	B1	

Q5.

Question	Working	Answer	Mark	Notes
(a)		example	B1	e.g. $3 + 8 = 11$
(b)		example	B1	e.g. $2 \times 7 = 14$
(c)		example	B1	e.g. $9 \times 9 = 81$

Q6.

Question	Working	Answer	Notes
(a)(i)		10, 12, 14, 15, 16, 18	B1 cao
(ii)		12, 18	B1 cao
(b)		$\frac{7}{10}$	M1 for 7 or indicating correct region or for 10, 14, 16, 11, 13, 17, 19 listed A1 for $\frac{7}{10}$ oe

Q7.

Question	Working	Answer	Mark	Notes
		$2^3 \times 3^2 \times 5$	3	M1 for a correct start to a factor tree (2 correct branches) M1 for a fully correct tree or correct factors as a list A1 for $2^3 \times 3^2 \times 5$ oe

Q8.

5MB2H_01 November 2015					
Question		Working	Answer	Mark	Notes
			7.21 (am)	3	M1 for listing multiples 9,18,27,36 and 12,24,36 (condone 1 arithmetic error) or method to find LCM M1 for identifying 36 as LCM A1 cao OR M1 for listing times 6.54, 7.03, 7.12, 7.21 or for listing times 6.57, 7.09, 7.21 (condone one arithmetic error) M1 for listing times 6.54, 7.03, 7.12, 7.21 **and** 6.57, 7.09, 7.21 (condone one arithmetic error) A1 cao

Q9

Question	Working	Answer	Mark	Notes
		24	2	M1 for list of at least 3 multiples of 8 **and** 2 multiples of 12 **or** correct method to write **either** 8 **or** 12 as product of prime factors A1 cao

Q10.

		Working	Answer	Mark	Notes
			60	3	M1 for 200 ÷ 5 (=40) M1(dep) for '40' × 1.50 or '40' × 150 A1 cao OR M1 150 ÷ 5 (= 30) or 1.5(0) ÷ 5 (=0.3(0)) M1(dep) for 200 × '30' or 200 × '0.3(0)' A1 cao (If no marks scored, SC B1 for 120)

Q11.

5MB2F November 2016					
Question	Working	Answer	Mark	Notes	Type
	6, 10, 14, 18 8, 13, 18	18	3	M1 for listing at least 3 multiples of 4 and at least 3 multiples of 5 M1 for adding 2 to multiples of 4 **and** adding 3 to multiples of 5 A1 for 18 cao	E

Q12.

	Mark	Comment
1(a)(i) 450 × 1.48 666 (Swiss francs) (a)(ii) 300 × 5.04 1512 (Polish Zloty) (b) 363.6 ÷ 1.2(0) (£) 303	M1 A1 M1 A1 M1 A1 6	

Q13.

(a) 450 × 99.4(0) 44 730 (rupees)	M1 A1	If units are given they must be correct *If no marks, award SC1 for sight of digits 4473(0) irrespective of place value*
(b) (450 × 99.72 =) 44 874 (rupees) Means he can buy 44 500 (rupees) or 89 (500 rupee notes) 44 500 ÷ 99.72 or 450 – (44 874 – 44 500) ÷ 99.72 (£) 446.25	B1 B1 M1 A1	B1 for sight of (500 ÷ 99.72 =) (£)5.01(40…) OR B1 for sight of 44 874 ÷ 500 (=89.748…) **AND** 89 × 500 = 44 500 OR B1 for sight of 450 ÷ 5.01(40…) (=89.748…) **AND** 89 × 500 = 44 500 or 89 notes FT rounding down to nearest 500 rupees provided 450 × 99.72 attempted OR M1 for sight of 446.25 × 99.72 = 44500 from trial & improvement FT 'their 44 500' provided it is a multiple of 500 provided at least B1 previously awarded CAO *Use of 99.40 rupees in (b)* *(450 × 99.40 =) 44 730 (rupees) B0* *Means he can buy 44 500 (rupees) or B1* *89 (500 rupee notes)* *44 500 ÷ 99.40 or* *450 – (44 730 – 44 500) ÷ 99.40 M1* *(£) 447.69 A0 as CAO*

Examiner's Report

Q1. No Examiner's Report available for this question

Q2. There were many correct answers with most of the correct answers coming from having drawn a two-way table. Those that did not draw a two-way table tended to make errors along the way and write a series of calculations all over the page such that it was difficult to follow what they were trying to do.

Q3. Forgetting the 23, 27, 29 Putting same numbers in different sectors

Q4. Many candidates placed the majority of the numbers in the correct sections; this question was well answered.

Q5. No Examiner's Report available for this question

Q6. No Examiner's Report available for this question

Q7. No Examiner's Report available for this question

Q8. Most students approached this question by adding 9 minutes many times to 6.45 and then adding 12 minutes to 6.45. There were some arithmetic errors found when using this approach. Those that were able to do this accurately tended to get the correct answer of 7.21 am. Some students approached this by trying to find the LCM of 9 and 12 but many of these who found the LCM was 36 then failed to add this on to 6.45 am.

Q9. The main difficulty with this question was confusion between factors and multiples with lists of the factors of 8 and 12 leading to the HCF rather than LCM. Many candidates drew factor trees to identify prime factors but then gave 2 or 4 as the final answer. Venn diagrams were often well used to identify the LCM from the prime factors in the union.

Q10. The vast majority of candidates knew what to do to answer this question and recorded their method clearly in the working space. Most candidates were awarded all three marks. A further few candidates demonstrated a correct method but did not give the correct answer because they were unable to calculate either 200 ÷ 5 or 40 × £1.50 correctly. These candidates scored two marks. Some weaker candidates multiplied 200 by 1.50 or 5 by 1.50.

Q11. A large number of students had no method to start this question at all. Rather than starting by listing multiples of 4 and 5 many just chose random numbers or multiples of 2 and 3.

Q12. This question was generally well answered, with the vast majority of candidates deciding on the correct operation to use.

Q13. Part (a) was well understood although many candidates were confused over the place value and the units of their answer. The correct answer was 44730 rupees but it was common to see 447.30 or other incorrect statements of place value or even £ instead of rupees. Units were not essential but if units were given they had to be correct.

(This paper was sat before the 500-rupee note was withdrawn.)

In part (b), some candidates found 44874 rupees, but again, many introduced a decimal point where it was not appropriate. Very few candidates realised that only 44500 rupees could be purchased due to the availability of only 500-rupee notes.