Countdown to your final Maths exam … Foundation Tier only … Part 3 (2020) Examiners Reports & Markscheme

Examiner's Report

Q1. This question was generally done well. In part (a) most students were able to write 7378 to the nearest hundred. A common but rare error was 400. In part (b) most students were able to write 6402 in words. Some students wrote all the number in word except for the "two", which was given as "2". Part (c) was done less well. A significant number of students were unable to write down the answer without drawing a multiplication grid and attempting a calculation. Part (d) was done well. A common approach was to halve 28 and then halve again. Part (e) was done less well. A common incorrect answer was 9 + 12 = 21, 21 ÷ 7 = 3. Some students, having applied the order of operations correctly, were then unable to add the numbers correctly. A common error was 12, often obtained from 9 + 4 = 12.

Q2. Part (i) was usually answered correctly, but in parts (ii) and (iii) many candidates showed a lack of understanding of factors and multiples and the difference between the two. In part (ii) 5 and in part (iii) 90 were the most common mistakes made. In part (iv), 100 and 30 were common errors as candidates showed their lack of understanding of a cube number.

Q3. Nearly all students gained this mark.

Q4. In part (a) many candidates knew that the square root of 81 is 9. Unfortunately many wrote their answer as 9 × 9 which lost the mark. Only half of candidates scored the mark in part (a).

Many errors were made by candidates in part (b). The most common error was to give an answer of 75 where the candidates felt they needed to apply the multiplication rule of indices and seeing the addition sign between the integers they thought that they had to add those integers as well. Another common error was to give an answer of 31. This they found by 52 + 23 = 25 + 6. However, by correctly squaring 5 and getting 25 these candidates gained 1 mark. Another error frequently seen was to see 23 as 16 with a final answer of 16 + 25 = 41. This highlighted the fact that many candidates were weak on powers/indices. Overall, 29% of candidates scored both marks with a further 13% scoring 1 mark.

Q5. In the first two parts it was frequently the case that students confused multiples for factors, and vice versa. In part (c) poor choice frequently led to incorrect answers of 4 or 39.

Q6. Both parts of this question were well answered. In part (b) 15 was seen as an incorrect answer and occasionally an arithmetic error was seen.

Q7. Part (a), selecting an odd number, was successfully answered by over 92% of candidates.

In parts (b) and (c) the success rates fell to just over 80% and 75% due to confusion between factors and multiples.

Q8. Many students wrote down a square number that is also an odd number with the most common correct answers being 9 and 25. Some students gave an answer such as 32 which gained no credit unless it was evaluated in the working. Most incorrect answers were odd numbers such as 3 and 5 that are not square numbers.

Q9. This question was well attempted by all, with most gaining at least part marks.

A large majority of candidates managed to identify three numbers that totalled 20, although some failed to realise that these had to come from the given list. A few misunderstood the question and instead found three pairs. However, even if the pairs they had selected contained no more than one incorrect prime, they were still awarded the first method mark.

Additionally a lot of candidates were able to correctly identify two primes as part of their answer, but a large number thought that '1' is a prime number, suggesting that this topic needs further reinforcement.

A number of candidates correctly identified three primes that did not total 20. For those who correctly identified three primes that did total 20, 2, 7, 11 was the most popular choice.

Q10. All parts of this question were attempted well. In part (a) most students gained the mark with only the weakest scoring zero, often for incorrectly reading the number as two thousand and four hundred.

In part (b) and (c) poor arithmetic let students down with −28 and −14 being common errors in part (b) along with 21 and in part (c) a common error was not to complete the calculation leaving their answer as 6+21

In part (d), as in part (c), some students left their answer as 2×2×2×2. Other weaker students wrote 8 or 32 for their answers.

Although there were very few blank responses seen in part (e), it was the least successful part of question 7. All other numbers in the list were seen as incorrect responses but 4 was the most common incorrect response with students' possibly confusing prime with a square number.

Many students gained the mark in part (f) but a common error was 1⁄3. Weaker students simply wrote 2:6 again.

Q11. This proved an accessible question with the majority of candidates scoring three marks for parts (a), (b) and (d).

Part (c) had a slightly lower success rate, mainly due to candidates not writing the full answer of 6.859, and writing 6.86 or 6.9, which did not score

Mark Scheme

Q1.

Question		Working	Answer	Mark	Notes
	(a)		7400	1	B1 cao
	(b)		6402 in words	1	B1 for eg six thousand four hundred and two
	(c)		54 000	1	B1 cao
	(d)		7	1	B1 cao
	(e)		13	1	B1 cao

Q2.

		Working	Answer	Mark	Notes
	(i)		5,15 or 5,125 or 15,125 or 30,50 or 30,60 or 30,90 or 30,100 or 50,60 or 50,90 or 50,100 or 60,90 or 60,100 or 90,100	4	B1 for 2 numbers, from the list, whose sum is an even number.
	(ii)		60 or 100		B1 for 60 or 100 or both
	(iii)		5 or 15		B1 for 5 or 15 or both
	(iv)		125		B1 cao

Q3.

Question	Working	Answer	Mark	Notes
		42 or 48	B1	42 or 48

Q4.

Question		Working	Answer	Mark	Notes
	(a)		9	1	B1 cao
	(b)		33	2	M1 for 5 × 5 **or** 25 seen in the working **or** 2 × 2 × 2 **or** 8 seen in the working A1 cao

Q5.

PAPER: 1MA0/2F				
Question	Working	Answer	Mark	Notes
(i)		72	3	B1 cao
(ii)		5		B1 cao
(iii)		5 or 31		B1 cao

Q6.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	8	B1	cao	
(b)	125	B1	cao	

Q7.

Question	Working	Answer	Mark	Notes
(a)		3 or 15	1	B1
(b)		12 or 24	1	B1
(c)		2 or 3	1	B1

Q8.

Question	Answer	Mark	Mark scheme	Additional guidance
	odd square	B1	stating an odd square number eg 1, 9, 25, 49, 81, etc.	

Q9.

		Working	Answer	Mark	Notes
			3 primes that total 20	3	M1 for identifying at least 2 different prime numbers from the list, could indicate on the list (not more than one incorrect) M1 for any 3 numbers from the list that total 20 A1 for 2, 7, 11 or 2, 5, 13 or both (in any order)

Q10.

Paper: 5MB2F_01					
Question		Working	Answer	Mark	Notes
	(a)		Twenty thousand and four hundred	1	B1 cao
	(b)		–21	1	B1 cao
	(c)		27	1	B1 cao
	(d)		16	1	B1 cao
	(e)		5	1	B1 cao
	(f)		1:3	1	B1 cao

Q11.

		Working	Answer	Mark	Notes
	(a)		35.91	1	B1 for 35.91
	(b)		1.2	1	B1 for 1.2
	(c)		6.859	1	B1 for 6.859
	(d)		1.6	1	B1 for 1.6