Bronze Level

Mark Scheme 4

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Bronze
Booklet	Mark Scheme 4

Time Allowed: **51 minutes**

Score: **/42**

Percentage: **/100**

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>95%	85%	75%	65%	55%	45%	35%	25%	<25%

Question Number	Working	Answer	Mark	Notes
1.	(12 x 18) + (8 x 16.5) (=348) "348" ÷ 20	17.4	4	M2 M1 for 12 x 18 (=216) or 8 x 16.5 (=132) M1 dep on at least 1 previous M1 A1 17.4 Alt Ratio method M1: 12:8 = 3:2 or 6:4 M1: 18 x3 and 16.5 x 2 or 18 x 6 and 16.5 x 4 M1: (18 x 3 + 16.5 x 2) ÷ 5 or (18 x 6 + 16.5 x 4) ÷ 10 A1: 17.4 Alt Proportion method M1 60 % boys and 40% girls stated or implied M2 (0.6 x 18) + (0.4 x 16.5) (= 10.8 + 6.6) M1 for 0.6 x 18 or 0.4 x 16.5 A1 17.4
				SC B1 for 17.1 (from {(8 x 18) + (12 x 16.5)}÷20)
				Total 4 marks

2. (a) (i)		30	1	B1
(ii)		21	1	B1
(b)	Horizontal line from (1400,39) to (1600,39) Line from ("1600", 39) to (1715, 0)		2	B1 B1ft ft if line finishes at (17 15, 0) (± 5 mins) and starts at height 39km
(c)		13 25to 1330 1625 to 1630	2	B1 Accept 1 25 pm to 1 30 pm B1 Accept 4 25 pm to 4 30 pm or ft if line finishes at (17 15, 0) (± 5 mins) and starts at height 39 km
(d)	39 ÷ 1.25 oe (39 ÷ 75 x 60)	31.2	3	M2 M1 for 39 ÷ 1.15 (=33.9..) or 39 ÷ 75 (= 0.52) A1
				Total 9 marks

3. (a)		reflection in line $x = 1$ (rotation (90° {anticlockwise} oe) about (1 , 1)	2	B1 B1 must be a single transformation oe for $x = 1$ B1 B1 must be a single transformation
(b)		flag at (4, – 1) (5, –1) (6, – 1) (5, – 2) or triangle at (5, –1) (6, –1) (5, – 2)	2	B2 B1 for correct orientation of flag, or triangle but in wrong position
				Total 4 marks

4. (a)	4/5 x 15/7	12/7 oe	2	M1 or 12a/15a ÷ 7a/15a (denominators the same and a multiple of 15) A1 dep on M1. Improper fraction equivalent to 1 5/7 required produced directly from M1
(b)	21/4 – 5/3 63a/12a – 20a/12a	43/12 oe	3	M1 Correct improper fractions M1 Correct fractions with a common denominator a multiple of 12 A1 dep on M2 Improper fraction required. Alt method M1 (5) 3/12 – (1) 8/12 (i.e. can ignore integer parts) M1 – 5/12 A1 Improper fraction required or 4 – 5/12. Ans dep on M2. Alt method M1 (4) 5/4 – (1) 2/3 (i.e. can ignore integer parts) M1 (4) 15/12 – (1) 8/12 (i.e. can ignore integer parts) A1 (3 +) 7/12 or improper fraction Ans dep on M2
				NB: Follow one strand that gives most marks.
				Total 5 marks

5.	tan 72 or tan 18 selected (*MN*=) 34 x tan 72	105 105	3	M1 M1 or (*MN* =) 34 ÷ tan 18 A1 104.64.... awrt 105 Alt Sine rule method M1 34/sin 18 = "MN"/sin 72 M1 (*MN*=) (34 x sin 72) ÷ sin 18 A1 104.64.... awrt 105
				Total 3 marks

Question Number	Working	Answer	Mark	Notes
6.	A product of 3 or more factors of 300 of which at least 2 are different primes (i.e. from 2, 3 or 5)			M1 e.g 2 x 3 x 50 (must multiply to 300) could be implied from a factor tree or division ladder
	All 5 correct prime factors & no extras (ignore 1's)	2, 2, 3, 5, 5 (with/without 1's) or 2^2 x 3 x 5^2 x 1 or 2^2 + 3 + 5^2		M1 could be implied from a factor tree or division ladder $2 \times 2 \equiv 2^2$ $5 \times 5 \equiv 5^2$
		2 x 2 x 3 x 5 x 5	3	A1 any order, do not accept inclusion of 1's accept . in place of x
				Total 3 marks
7.	(19 x1)(=19) + (8x3)(=24) + (3x5)(=15) + (1x 9) (=9)	67	3	M2 for freq x all correct midpoint values correctly evaluated (condone omission of 4^{th} interval) {do not have to see intention to add} if not M2 then M1 for freq x consistent point in each interval or M1 for 1 error in list of 19, 24, 15, (0), 9 A1 isw if 67 calculated correctly. (2.16.. = M2A1)
				Total 3 marks

8. (a)	set B separate to A, set C within A		2	B1 B1	Set C has to be a unique set
(b)	outer ring between A and C shaded		1	B1ft	Completely outside of C and within all of A. Set C has to be a unique set
					Total 3 marks

Q	Working	Answer	Mark	Notes
9. (a)	1 – (0.18 + 0.2 + 0.23 + 0.22)	0.17	2	M1 1 – 0.83 A1
(b)	40 x 0.2	8	2	M1 A1 8 out of 40 = M1A1 8/40 = M1A0
				Total 4 marks

10. (i)		$2x + 2(x+2) = 2 \times 2x + 2 \times 4x$ or $4x + 4 = 12x$ or $x + (x+2) = 2x + 4x$ or $2x + 2 = 6x$	2	B2 Must be an equation based on perimeter or semi-perimeter with x's on both sides of equation If not B2 then B1 for $\{2x + 2(x+2)\}$ or $\{2 \times 2x + 2 \times 4x\}$ or $\{4x + 4\}$ or $12x$ i.e correct perimeter of A or B or $\{x + (x+2)\}$ or $\{2x + 4x\}$ or $\{2x + 2\}$ or $6x$ i.e correct semi-perimeter of A or B
10(ii)	$x + 4 = 12x$ or $2x + 2 = 6x$ $4 = 8x$ or $2 = 4x$	0.5	2	M1 One step from co A1 Allow numerical methods. Correct answer only = M1A1
				Total 4 marks