



**General Certificate of Secondary Education
Practice Paper
Set 1**

**Mathematics (Linear) B
Paper 1
Higher Tier**

4365

Mark Scheme

Mark Schemes

Principal Examiners have prepared these mark schemes for practice papers. These mark schemes have not, therefore, been through the normal process of standardising that would take place for live papers.

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Glossary for Mark Schemes

GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Mathematics papers, marks are awarded under various categories.

- M** Method marks are awarded for a correct method which could lead to a correct answer.
- A** Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
- B** Marks awarded independent of method.
- M dep** A method mark dependent on a previous method mark being awarded.
- B dep** A mark that can only be awarded if a previous independent mark has been awarded.
- ft** Follow through marks. Marks awarded following a mistake in an earlier step.
- SC** Special case. Marks awarded within the scheme for a common misinterpretation which has some mathematical worth.
- oe** Or equivalent. Accept answers that are equivalent.
eg, accept 0.5 as well as $\frac{1}{2}$

Q	Answer	Mark	Comments
1 (a)	3	B1	
1 (b)	Three correct lines joining Equation to $3x + 2 = 11$ and Formula to $V = lbw$ and Identity to $2(x + 1) \equiv 2x + 2$	B2	B1 for 1 correct
2	7, 10, 13, 16 etc (at least 3 seen)	M1	Can be given as times in 24 or 12 h clock
	8, 12, 16, 20 (at least 3 seen)	M1	Can be given as times in 24 or 12 h clock
	4 pm and 4 am	A1	Can be given as times in 24 or 12 h clock
3	20 girls horse riding	B1	
	16 boys rock climbing	B1	
	12 boys archery	B1	
	70 or 32 and 38	B1ft	ft their values if 2 correct
	35	B1ft	ft their values if 2 correct
4	$0.8 \times 30 (= 24)$	M1	oe
	3	A1	
	$3 \div 20$	M1Dep	
	15%	A1ft	ft their 3
5 (a)	$5x + 25$	B1	
5 (b)	$x(x + 6)$	B1	
5 (c)	Always even	B1	
	Always odd	B1	

Q	Answer	Mark	Comments
6 (a)	50:30:20	M1	
	5:3:2	A1	
6 (b)	8:3:4	B2	B1 for 4:1.5:2 or equivalent
7 (a)	$10x - 4x = -12 + 3$	M1	Allow one sign or rearrangement error
	$6x = -9$	A1	
	-1.5	A1ft	ft on one error only
7 (b)	$1\frac{3}{4} - \frac{5}{6}$ $1\frac{3}{4} - \frac{5}{6}$	M1	
	$\frac{21}{12} - \frac{10}{12}$ $21/12 - 10/12$	M1	Common denominator of 12 and at least one numerator correct
	$\frac{11}{12}$ $11/12$	A1	SC2 31/12 oe
7 (b) Alt	Multiplying by 12	M1	
	$10 + 12d = 21$	M1	
	$\frac{11}{12}$ $11/12$	A1	SC2 31/12 oe
8	10	B1	
	$360 \div 10$	M1	
	Colin ticked and 36	A1	
8 Alt	10	B1	
	States that 10 sides must be smaller than (5) sided	M1	
	Colin ticked and $72 \div 2$ smaller than 72×2	A1	

Q	Answer	Mark	Comments
9 (a)	2.5	B1	
	25	B1	
9 (b)	$3n$	B1	
	$3n + 1$	B1 Dep	
10	Use of cos	M1	
	$50 \times \frac{7}{25}$	M1Dep	
	14	A1	
*11	$2a + c = 63$ and $3a + 2c = 101$	M1	
	Balancing and attempting to eliminate one variable. eg $4a + 2c = 126$	M1Dep	
	$a = 25$ and $c = 13$	A1	SC1 If T&I used and correct values for a and b found and correct conclusion reached
	No as $64 > 60$	A1	oe eg No as 64 needed
	Setting up two simultaneous equations, attempting to find values for variables and working out cost of one adult and 3 children	Q1	Strand (ii)
*11 Alt	$A + C = 38$	M1	
	$A = 63 - 38 (= 25)$	M1Dep	
	$A = 25$ and $C = 13$	A1	SC1 If T&I used and correct values for a and b found and correct conclusion reached
	No as $64 > 60$	A1	oe eg No as 64 needed
	Calculates A, then C to find two values and working out cost of one adult and 3 children	Q1	Strand (ii)

Q	Answer	Mark	Comments
12	Hypotenuse of triangle = 5	B1	
	$0.5 \times 3 \times 2 \times \pi$	M1	oe
	3π	A1	
	$10 + 3\pi$	A1	
13 (a)(i)	50	B1	
13 (a)(ii)	100	B1	
*13 (b)(i)	Alternate segment	Q1	Strand (i)
13 (b)(ii)	$180 - (54 + 48)$	M1	
	78	A1	
14 (a)	$\frac{5}{8}, \frac{3}{8}, \frac{5}{8}, \frac{3}{8}, \frac{5}{8}$	B1	
14 (b)	Identifies P(A, Not A) and P(Not A, A)	M1	
	$\frac{3}{8} \times \frac{5}{8} \quad \frac{5}{8} \times \frac{3}{8}$	A1	
	$\frac{30}{64}$ or $\frac{15}{32}$	A1	
15	$(\sqrt{2})^2 + 3\sqrt{2} + 5\sqrt{2} + 15$	M1	Must have 4 terms
	$2 + 3\sqrt{2} + 5\sqrt{2} + 15$	A1	
	$17 + 8\sqrt{2}$	A1	Allow 1 mark for $8\sqrt{2}$

Q	Answer	Mark	Comments
16	Any indication that the quartiles or the median is 25% or 50% of the total	M1	
	$10 \div (25 \div 10)$	M1	25% = 10
	20 + 6 or 30 - 4	M1	10% = 4
	26	A1	
17	$10x + 6 - (4x + 2) (\div 2)$	M1	Allow $10x + 6 - (2x + 1)$ for M1 and condone missing brackets
	$3x + 2$	A1	
	$(2x + 1)(3x + 2) = 26$	M1	
	$6x^2 + 7x - 24 = 0$	M1	
	$(2x - 3)(3x + 8) = 0$	A1	
	1.5	A1	