

INTERNATIONAL GCSE MATHEMATICS

9260/2E

Extension Tier Paper 2E

Mark scheme

November 2025

Version: 1.0 Final



Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from www.oxfordaqa.com

Copyright information

OxfordAQA retains the copyright on all its publications. However, registered schools/colleges for OxfordAQA are permitted to copy material from this booklet for their own internal use, with the following important exception: OxfordAQA cannot give permission to schools/colleges to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Copyright © 2025 OxfordAQA International Examinations and its licensors. All rights reserved.

Key to mark types and abbreviations

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.
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.
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.
oe	Or equivalent. Accept answers that are equivalent. eg accept 0.5 as well as $\frac{1}{2}$
[a, b]	Accept values between a and b inclusive.
[a, b)	Accept values $a \leq \text{value} < b$
3.14...	Accept answers which begin 3.14 eg 3.14, 3.142, 3.1416
Use of brackets	It is not necessary to see the bracketed work to award the marks.

Q	Answer	Mark	Comments
1	40	B1	

Q	Answer	Mark	Comments
2	32	B1	
	Additional Guidance		
	Answer 2^5 only		B0

Q	Answer	Mark	Comments
3	Alternative method 1: works with $1\frac{2}{5}$ first		
	$\frac{7}{5} \times \frac{7}{3}$	M1	oe improper fraction
	$\frac{7}{5} \times \frac{7}{3} = \frac{49}{15}$ and $\frac{49}{15} = 3\frac{4}{15}$	A1	oe using equivalent fractions
	Alternative method 2: works with $\frac{2}{5}$ first		
	$\frac{7}{3} + \frac{2}{5} \times \frac{7}{3}$ or $\frac{7}{3} + \frac{14}{15}$	M1	oe using equivalent fractions
	$\frac{7}{3} + \frac{14}{15} = \frac{35}{15} + \frac{14}{15} = \frac{49}{15}$ and $\frac{49}{15} = 3\frac{4}{15}$	A1	oe using equivalent fractions

Q	Answer	Mark	Comments
4(a)	$\frac{9}{20}$ or 0.45 or 45%	B1	oe fraction, decimal, percentage

Q	Answer	Mark	Comments
4(b)	Valid reason	B1	eg spin the spinner more
	Additional Guidance		
	Repeat the experiment more		B1
	Need more spins/attempts/trials		B1
	20 is not enough		B1

Q	Answer	Mark	Comments
4(c)	Cannot tell	B1	

Q	Answer	Mark	Comments
5(a)	a^{13}	B1	

Q	Answer	Mark	Comments
5(b)	c^9	B1	

Q	Answer	Mark	Comments
5(c)	$9y^{10}$	B2	B1 $9y^m$ or ny^{10} where m or n is a constant
	Additional Guidance		
	$9 \times y^{10}$		B1

Q	Answer	Mark	Comments
6	$100 - 4.5$ or $95.5(\%)$ or $1 - 0.045$ or 0.955 or $70\,000 \times 4.5 \div 100$ or 3150 or $66\,850$	M1	oe
	Correct method to work out the amount after 4 years	M1dep	eg $70\,000 \times 0.955^4$ or $70\,000 \times (1 - 4.5\%)^4$ if years calculated individually must be full method
	58 224 or 58 225 or 58 226	A1	accept 58 230 or 58 200 or 58 000 with M2 awarded SC1 57 400
	Additional Guidance		
	M1 may be awarded for correct work with no answer or incorrect answer, even if this seen amongst multiple attempts		
	If calculated year by year, the values for the first 3 years should be 66 850, [63 841, 63 842], [60 968, 60 969.2]		M1 for any of these
	SC1 for simple depreciation		

Q	Answer	Mark	Comments
7	$\sqrt{\frac{220}{\pi}}$ or [8.36, 8.4]	M1	oe
	$\pi \times \text{their [8.36, 8.4]} \times 2$ or $2 \times \pi \times \sqrt{\frac{220}{\pi}}$	M1	oe their [8.36, 8.4] must come from a calculation involving 220 and π
	[52.5, 52.6]	A1	condone answer in terms of π eg $2\pi\sqrt{\frac{220}{\pi}}$
	Additional Guidance		
	220 = πr^2 with no further work		M0M0A0

Q	Answer	Mark	Comments
8(a)	Open circles at -5 and 3 and a line joining them	B1	mark intention circles and lines can be above, below or on the line
	Additional Guidance		
	Arrowheads at the ends of the line instead of circles		B0

Q	Answer	Mark	Comments
8(b)	$3y \geq 15$ or $9y - 6y \geq 15$ or $-15 \geq -3y$ or $-15 \geq 6y - 9y$ or $3y \geq 2y + 5$	M1	oe
	$y \geq 5$ or $5 \leq y$	A1	
	Additional Guidance		
	$y > 5$ or $y < 5$ or $5 \geq y$ or $y = 5$		M1A0
	$y \geq 5$ in working and 5 on answer line		M1A0

Q	Answer	Mark	Comments
8(c)	9	B1	

Q	Answer	Mark	Comments
9	Alternative method 1: equivalent ratios with equal greens		
	12 : 21 or 12 : 8	M1	
	12 : 21 and 12 : 8	M1dep	
	29	A1	
	Alternative method 2: one part in jar A = a and one part in jar B = b		
	$4a = 3b$ or $a : b = 3 : 4$ or $a = 3$ and $b = 4$ or $a \div b = 3 \div 4$	M1	oe any letters
	(red =) 21 and 8	M1dep	may be seen as part of a ratio or fraction eg 12 : 21 and 12 : 8 or $\frac{12}{21}$ and $\frac{12}{8}$
	29	A1	

Mark Scheme and Additional Guidance for question 9 continues on the next page.

9 cont	Alternative method 3: total in jar A = x and total in jar B = y		
	Sets up an equation or ratio in terms of x and y	M1	any letters eg $\frac{4}{11}x = \frac{3}{5}y$ or $\frac{x}{y} = \frac{3}{5} \times \frac{11}{4}$ or $\frac{x}{y} = \frac{33}{20}$ or $x : y = 33 : 20$
	Correct method to find number of red balls in A and B	M1dep	eg their $33 \times \frac{7}{11}$ or 21 and their $20 \times \frac{2}{5}$ or 8
	29	A1	
	Additional Guidance		
	Follow the principles of the scheme for methods finding total number of balls – total number of green balls eg $x : y = 33 : 20$ $33 \times \frac{4}{11}$ and $20 \times \frac{3}{5}$ $33 + 20 - \text{their } 33 \times \frac{4}{11} - 20 \times \frac{3}{5} = 29$	M1 M1dep A1	

Q	Answer	Mark	Comments
10(a)	Reflection	B1	
	$x = -1$	B1	
	Additional Guidance		
	Symmetry/symmetrical (in the line) $x = -1$		B0B1
	Mirrored (in the line) $x = -1$		B0B1
	Combined transformation		B0B0

Q	Answer	Mark	Comments
10(b)	Shape correctly drawn	B2	B1 shape rotated correctly 90° clockwise around (−1, 1) or shape with correct orientation in the wrong place
	Additional Guidance		

Q	Answer	Mark	Comments
11	$6y + 1 + 9 - 2y = 20$	M1	oe equation eg $4y = 10$
	$(y =) 2.5$	A1	oe
	$\left(\frac{20}{2} \times\right)$ their $2.5 \times (\text{their } 2.5 + 1)$ or 8.75	M1	oe $0 < \text{their } 2.5 < 20$ implied by answer $\frac{175}{2}$
	87.5	A1	oe SC1 $2y^3 + 7y^2 + 5y$
	Additional Guidance		
	their $2.5 \times (\text{their } 2.5 + 1)$ may be seen as part of full area calculation		
	SC1 for correct expression in y for area of trapezium		

Q	Answer	Mark	Comments
12	$7a^2 = 63$ or $14a + b = -20$	M1	oe implied by $a = 3$
	$a = -3$	A1	
	$b = 22$	A1ft	ft their a
	Additional Guidance		
	Answer $a = 3$ $b = -62$		M1A0A1ft

Q	Answer	Mark	Comments
13(a)	Box plot with <ul style="list-style-type: none"> lowest at 30 lower quartile at 46 median at 54 upper quartile at 58 highest at 70 	B2	B1 box plot with three or four criteria met
	Additional Guidance		
	Box plot must have two whiskers and a central box with no more than one vertical division for B1 or B2		
	Allow ends of whiskers to have vertical lines, dots, or nothing		
	Mark intention eg any height and allow horizontal line through centre of box		
	$\pm$ half a small square tolerance		

Q	Answer	Mark	Comments
13(b)	Alternative method 1: compares in miles per hour		
	58 – 46 or 12 or 136 – 108 or 28	M1	oe calculates an interquartile range
	$136 \times \frac{5}{8}$ and $108 \times \frac{5}{8}$ or 85 and 67.5 or $(136 - 108) \times \frac{5}{8}$ or $28 \times \frac{5}{8}$ or 17.5	M1	oe conversion into miles per hour
	England and 12 and 17.5 or England and 12 and 79.5 and 85 or England and 12 and 73 and 67.5	A1	

Mark scheme and Additional Guidance for question 13(b) continues on the next page

Q	Answer	Mark	Comments
13(b) cont	Alternative method 2: compares in kilometres per hour		
	58 – 46 or 12 or 136 – 108 or 28	M1	oe calculates an interquartile range
	$58 \times \frac{8}{5}$ and $46 \times \frac{8}{5}$ or 92.8 and 73.6 or $(58 - 46) \times \frac{8}{5}$ or $12 \times \frac{8}{5}$ or 19.2	M1	oe conversion into kilometres per hour
	England and 19.2 and 28 or England and 28 and 101.6 and 92.8 or England and 28 and 64.8 and 73.6	A1	
	Additional Guidance		
	Up to M2 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts		
	Use of range only		0 marks

Q	Answer	Mark	Comments
14(a)	0.65	B1	oe fraction, decimal or percentage

Q	Answer	Mark	Comments
14(b)	5 and 11 and no more than two other numbers from {3, 7, 8, 9, 14} in P	M1	in final answer or on a diagram
	$4 \times 7 - (5 + 11)$ or $28 - 16$ or 12	M1	oe
	3, 5, 9, 11	A1	ignore notation if intention clear

Q	Answer	Mark	Comments
15	Alternative method 1: uses percentages or algebra		
	140% or 1.4 or $x + 0.4x = 980$	M1	oe any letter
	$(1\% =) \frac{980}{140}$ or 7 or $(100\% =) \frac{980}{1.4}$ or 700 or $x = 700$ or $n\% = \frac{980}{140} \times n$ where n is any number	M1	oe may be seen within a product or other calculation
	280	A1	
	Alternative method 2: uses ratios		
	40 : 100 or 2 : 5	M1	oe ratio
	$980 \div (\text{their } 2 + \text{their } 5)$ or 140	M1dep	oe
	280	A1	

Q	Answer	Mark	Comments
16(a)	Rate of change of volume	B1	statement that uses the context with reference to volume or amount of water and time/rate
	Additional Guidance		
	Rate of decrease of volume		B1
	Change/decrease of volume per minute/unit of time		B1
	Rate of leakage		B1
	Amount of leakage per minute		B1
	Change/decrease per minute/unit of time		B0
	Rate of change/decrease		B0
	Speed of leakage		B0
	Volume of leakage		B0

Q	Answer	Mark	Comments
16(b)	Tangent drawn at $t = 30$	M1	
	$[-36, -30]$ with tangent drawn and no incorrect working	A1	oe ignore units
	Additional Guidance		
	$\frac{1000}{30}$ oe from reading volume at $t = 30$		A0

Q	Answer	Mark	Comments
17	$\frac{75}{360} \times \pi \times 8^2$ or $\frac{40}{3}\pi$ or [41.8, 41.9]	M1	oe allow use of [3.14, 3.142] in place of π
	$\frac{\text{their [41.8, 41.9]}}{0.5}$ or [83.6, 83.8] or 84	M1dep	oe eg $\frac{80}{3}\pi$
	83	A1	
	Additional Guidance		
	$\frac{80}{3}\pi$ from incorrect working eg $\frac{75}{180} \times \pi \times 8^2$		M0M0

Q	Answer	Mark	Comments
18(a)	$\frac{9}{15}$ and $\frac{6}{15}$ in correct positions	B1	oe fraction, decimal or percentage
	$\frac{8}{14}$ and $\frac{6}{14}$ in correct positions	B1	oe fraction, decimal or percentage
	$\frac{9}{14}$ and $\frac{5}{14}$ in correct positions	B1	oe fraction, decimal or percentage
	Additional Guidance		
	Allow a mix of fractions, decimals or percentages in the diagram		
	Accept decimals or percentages to 2 sf or better		
	<p>First counter Second counter</p> <pre> graph LR Root(()) --- 9/15 Green1[Green] Root --- 6/15 Blue1[Blue] Green1 --- 8/14 Green2[Green] Green1 --- 6/14 Blue2[Blue] Blue1 --- 9/14 Green3[Green] Blue1 --- 5/14 Blue3[Blue] </pre>		B3

Q	Answer	Mark	Comments
18(b)	$\frac{9}{15} \times \frac{8}{14}$ or $\frac{72}{210}$ or $\frac{9}{15} \times \frac{6}{14}$ or $\frac{6}{15} \times \frac{9}{14}$ or $\frac{54}{210}$ or $\frac{9}{15} \times \frac{6}{14} \times 2$ or $\frac{108}{210}$ or $\frac{6}{15} \times \frac{5}{14}$ or $\frac{30}{210}$	M1	oe fraction, decimal or percentage correct or ft their tree diagram in part (a) if all probabilities are between 0 and 1
	$\frac{9}{15} \times \frac{8}{14} + \frac{9}{15} \times \frac{6}{14} + \frac{6}{15} \times \frac{9}{14}$ or $\frac{72}{210} + \frac{54}{210} + \frac{54}{210}$ or $1 - \frac{6}{15} \times \frac{5}{14}$	M1dep	oe correct or ft their tree diagram in part (a) if all probabilities are between 0 and 1 $\frac{9}{15} + \frac{6}{15} \times \frac{9}{14}$ oe scores M2
	$\frac{6}{7}$ or 0.857(14...) or 85.7(14...)%	A1ft	oe fraction, decimal or percentage correct or ft their tree diagram in part (a) if all probabilities are between 0 and 1 accept 0.86 or 86% with M2 scored
	Additional Guidance		
	Ignore any conversion to a fraction, decimal or percentage once a correct answer is seen		
	Do not allow products to be part of a longer multiplication string of probabilities, eg $\frac{9}{15} \times \frac{8}{14} \times \frac{6}{14}$		M0

Q	Answer	Mark	Comments
19	Alternative method 1: expands $(2y - 3)(y + 3)$ first		
	Exactly 4 terms with at least 3 correct from $(+)2y^2 \quad (+)6y \quad -3y \quad -9$	M1	oe eg $2y^2 + 3y - 9$ terms may be seen in a grid terms in any order implied by $2y^2 + 3y + k$ or $py^2 + 3y - 9$ where k and p are non-zero constants
	Full expansion of their 3 or 4 terms with $(y - 1)$ with correct multiplication of their 3 or 4 terms by y or by -1	M1	eg $2y^3 + 6y^2 - 3y^2 - 9y - 2y^2 - 6y + 3y + 9$ or $2y^3 + 3y^2 - 9y - 2y^2 - 3y + 9$ terms may be seen in a grid terms in any order
	$2y^3 + y^2 - 12y + 9$	A1	terms in any order
	Alternative method 2: expands $(y + 3)(y - 1)$ first		
	Exactly 4 terms with at least 3 correct from $(+)y^2 \quad (+)3y \quad -y \quad -3$	M1	oe eg $y^2 + 2y - 3$ terms may be seen in a grid terms in any order implied by $y^2 + 2y + k$ or $py^2 + 2y - 3$ where k and p are non-zero constants
	Full expansion of their 3 or 4 terms with $(2y - 3)$ with correct multiplication of their 3 or 4 terms by $2y$ or by 3	M1	eg $2y^3 + 6y^2 - 2y^2 - 6y - 3y^2 - 9y + 3y + 9$ or $2y^3 + 4y^2 - 6y - 3y^2 - 6y + 9$ terms may be seen in a grid terms in any order
	$2y^3 + y^2 - 12y + 9$	A1	terms in any order

Mark scheme and Additional Guidance for question 19 continues on the next page

Q	Answer	Mark	Comments
19 cont	Alternative method 3: expands $(2y - 3)(y - 1)$ first		
	Exactly 4 terms with at least 3 correct from $(+)2y^2 - 2y - 3y (+)3$	M1	oe eg $2y^2 - 5y + 3$ terms may be seen in a grid terms in any order implied by $2y^2 - 5y + k$ or $py^2 - 5y + 3$ where k and p are non-zero constants
	Full expansion of their 3 or 4 terms with $(y + 3)$ with correct multiplication of their 3 or 4 terms by y or by 3	M1	eg $2y^3 - 2y^2 - 3y^2 + 3y + 6y^2 - 6y - 9y + 9$ or $2y^3 - 5y^2 + 3y + 6y^2 - 15y + 9$ terms may be seen in a grid terms in any order
	$2y^3 + y^2 - 12y + 9$	A1	terms in any order
	Additional Guidance		
	M1 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts		
	For terms seen in a grid accept eg $6y$ for $+6y$		
	Alt 1 $2y^2 - 6y + 3y - 9$ only 2 terms correct $(2y^2 - 6y + 3y - 9)(y - 1) = 2y^3 - 6y^2 + 3y^2 - 9y - 2y^2 - 6y + 3y - 9$ 8 terms (full expansion) with correct multiplication of their 4 terms by y		M0 M1
	Alt 2 $y^2 + 2y + 2$ implied 4 terms with 3 correct $(y^2 + 2y + 2)(2y + 3) = y^3 + 4y^2 + 2y + 3y^2 + 6y + 6$ 6 terms (full expansion) with correct multiplication of their 3 terms by 3		M1 M1
	Allow unprocessed signs as a correct term for M marks but not for A1 eg $+ - 6y$ for $-6y$		
	Allow terms only seen as products for M marks but not for A1 eg $2y^3 + y^2 - 12 \times y + 9$		M2A0
	M2A1 response followed by incorrect further work is M2A0 eg $2y^3 + y^2 - 12y + 9$ in working with answer $2y^5 - 12y + 9$		M2A0

Q	Answer	Mark	Comments
20	At least two areas from: 8×8 or 64 implied by 384 or 320 or $\pi \times \left(\frac{5}{2}\right)^2 (\times 2)$ or $\frac{25}{4}\pi$ or 19.6(...) or $\pi \times 5 \times 4$ or 20π or 62.8(...) or $8 \times 8 - \frac{25}{4}\pi$ or [44.3, 44.4]	M2	M1 for any one area from: 8×8 or 64 implied by 384 or 320 or $\pi \times \left(\frac{5}{2}\right)^2 (\times 2)$ or $\frac{25}{4}\pi$ or 19.6(...) or $\pi \times 5 \times 4$ or 20π or 62.8(3...)
	$(8 \times 8 \times 6) + \text{their } 20\pi$ or $(8 \times 8 \times 5) + \text{their } \frac{25}{4}\pi + \text{their } 20\pi$ + $8 \times 8 - \text{their } \frac{25}{4}\pi$ or $384 + 20\pi$	M1dep	oe complete method dep M2
	[446.8, 447]	A1	SC3 [466, 466.5] SC2 486(.1...)
	Additional Guidance		
	SC3 correct surface area + one hidden circle		
	SC2 correct surface area + two hidden circles		

Q	Answer	Mark	Comments
21(a)	$4 \times 6 + 2$ or 26 or $5(4x + 2) - 3$ or $20x + 7$	M1	may be embedded eg $5(4 \times 6 + 2) - 3$
	127	A1	
	Additional Guidance		
	M1 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts		
	$4(5 \times 6 - 3) + 2$		M0A0

Q	Answer	Mark	Comments
21(b)	Alternative method 1		
	$5x - 3 = 8$	M1	oe equation
	$\frac{11}{5}$ or 2.2	A1	oe
	Alternative method 2		
	for a method to find the inverse, eg $(y =) \frac{x+3}{5}$ or $(x =) \frac{y+3}{5}$	M1	oe
	$\frac{11}{5}$ or 2.2	A1	oe

Q	Answer	Mark	Comments
22	Multiplication by a power of 10 with correct result	M1	eg $10x = 0.2727\ldots$ or $100x = 2.7272\ldots$ or $1000x = 27.2727\ldots$ any or no letter
	Correct equation formed from subtraction of two equations to eliminate recurring digits or correct fraction not in its simplest form	M1dep	eg $990x = 27$ eg $\frac{27}{990}$
	$\frac{3}{110}$ with M1M1 seen	A1	
	Additional Guidance		
	Ignore attempt to simplify a correct fraction eg $\frac{3}{110} = \frac{1}{35}$		
	$\frac{3}{110}$ with no working		M0M0A0
	Unless recovered, recurring decimals must be in correct notation or denoted by at least two repeated digits after the decimal point with at least 2 dots		

Q	Answer	Mark	Comments
23	Alternative method 1: uses information about y		
	$x = ky^2$ or $y = \frac{c}{w}$	M1	k and c can be any letter
	$k = \frac{8}{4^2}$ or $k = \frac{1}{2}$ or $x = \frac{1}{2}y^2$ or $c = 4 \times 5$ or $c = 20$ or $y = \frac{20}{w}$	M1dep	k and c can be any letter
	$x = \text{their } \frac{1}{2} \times \left(\frac{\text{their } 20}{w} \right)^2$	M1	ft their equations of the form $x = ky^2$ and $y = \frac{c}{w}$ with c and k numerical their 20 must not be their $\frac{1}{2}$
	$x = \frac{200}{w^2}$ or $x = 200w^{-2}$	A1	oe equation with x as the subject

Mark scheme and Additional Guidance for question 23 continues on the next page

Q	Answer	Mark	Comments
23 cont	Alternative method 2: does not use information about y		
	$x = ky^2$ or $y = \frac{c}{w}$	M1	k and c can be any letter
	$x = k\left(\frac{c}{w}\right)^2$ or $8 = ky^2$ and $y = \frac{c}{5}$	M1dep	k and c can be any letter substitutes to eliminate y or substitutes values in both equations oe
	$8 = \frac{k c^2}{5^2}$ or $kc^2 = 8 \times 5^2$ or $kc^2 = 200$	M1	allow use of any letter/symbol for kc^2 including k and c and c^2
	$x = \frac{200}{w^2}$ or $x = 200w^{-2}$	A1	oe equation with x as the subject

Q	Answer	Mark	Comments
24	$\sqrt{4 \times 6}$ or $2\sqrt{6}$ or works with both surds in $\sqrt{3}$	M1	eg $3\sqrt{2 \times 3}$ or $3\sqrt{2}\sqrt{3}$ and $\sqrt{3 \times 8}$ or $2\sqrt{2}\sqrt{3}$
	$3\sqrt{6} + 2\sqrt{6}$ or $5\sqrt{6}$ or $3\sqrt{2}\sqrt{3} + 2\sqrt{2}\sqrt{3}$ or $5\sqrt{2}\sqrt{3}$	M1dep	
	$\sqrt{150}$ with M2 scored	A1	
	Additional Guidance		
	Up to M2 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts		

Q	Answer	Mark	Comments
25	$2n^2 - 3n + 9$ or $a = 2$ and $b = -3$ and $c = 9$	B3	B2 $2n^2 - 3n (+c)$ or $a = 2$ and $b = -3$ or $2n^2 (+bn) + 9$ or $a = 2$ and $c = 9$ B1 $2n^2 (+bn + c)$ or $a = 2$ or $an^2 (+bn) + 9$ with $a \neq 0$ or $c = 9$ or second difference = 4
	Additional Guidance		
	Terms may be in any order		
	Second difference = 4 scores B1 even if used incorrectly eg answer $4n$		
	4 must be the second difference to score B1 eg answer $3n + 4$ with no working or statement that 4 is the second difference		B0
	Condone $n = 2n^2 - 3n + 9$		B3
	Condone $2n^2 - 3n + 1 = 0$		B2
	Condone $4x^2 + 9$ etc		B1

Q	Answer	Mark	Comments
26(a)	$\sqrt{5^2 + 5^2}$ or $\sqrt{50}$ or $5\sqrt{2}$ or 7.07(1...) or 7.1	M1	oe
	A complete method to find angle AFG	M1dep	eg $(AFG =) \tan^{-1}\left(\frac{\text{their } \sqrt{50}}{5}\right)$ or $\sin^{-1}\left(\frac{\text{their } \sqrt{50} \times \sin 90}{\sqrt{(\text{their } \sqrt{50})^2 + 5^2}}\right)$
	[54.6, 54.74]	A1	accept 55 with M2 scored
	Additional Guidance		
	Up to M2 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts		

Q	Answer	Mark	Comments
26(b)	It is the same as the answer to part (a)	B1	

Q	Answer	Mark	Comments
27	$ED = DC$	M1	ignore reasons
	$AD = DB$	M1	ignore reasons
	$ED = DC$ and midpoint and $AD = DB$ and ABD is an equilateral triangle and $AE = BC$ (given) and SSS	A1	oe
	Additional Guidance		
	Up to M2 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts		
	Do not allow incorrect statements for the A mark		

Q	Answer	Mark	Comments
28	$\frac{12}{3}$ or 4 or $\frac{3}{12}$ or $\frac{1}{4}$ or $\frac{4-2k}{k+5}$ or $\frac{k+5}{4-2k}$	M1	oe
	$\frac{4-2k}{k+5} = \frac{12}{3}$ or $\frac{k+5}{4-2k} = \frac{3}{12}$	M1dep	oe equation eg $4-2k=4(k+5)$
	$\frac{8}{3}$	A1	oe fraction or decimal to at least 3sf

Q	Answer	Mark	Comments
29	A pair of expressions that represent two consecutive multiples of 4	M1	eg $4n$ and $4n + 4$ or $4n - 4$ and $4n$
	Finds product of their two consecutive multiples of 4 in a fully factorised form	M1dep	eg $16n(n + 1)$ with $4n(4n + 4)$ or $16n^2 + 16n$ seen or $16n(n - 1)$ with $4n(4n - 4)$ or $16n^2 - 16n$ seen
	States that $n(n + 1)$ is a multiple of 2 so $16n(n + 1)$ is a multiple of 32 or states that $n(n - 1)$ is a multiple of 2 so $16n(n - 1)$ is a multiple of 32	A1	oe statement using their pair of consecutive multiples of 4
	Additional Guidance		
	Any letter for n		

Q	Answer	Mark	Comments
30(a)	$5 - 3(-1 - 2)^2$ or -22 or $5 - 3(7 - 2)^2$ or -70	M1	oe
	states or implies maximum value is 5 or $f(x) < 5$ or $f(x) \leq 5$	M1	may be implied by a diagram allow use of y in place of $f(x)$ may be seen within an inequality
	$-70 < f(x) \leq 5$	A1	allow use of y in place of $f(x)$ must be a single inequality
	Additional Guidance		
	$-70 < y \leq 5$		M1M1A1
	$-70 < x \leq 5$		M1M1A0
	Correct answer without inequality notation, eg $(-70, 5]$		M1M1A0
	Note that M0M1 is possible		
Q	Answer	Mark	Comments
30(b)	-3	B1	