Pearson

Mark Scheme (Results)

November 2025

Pearson Edexcel International GCSE In Mathematics A

4MA1/1F

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

- **Types of mark**
    - M marks: method marks o A marks: accuracy marks
    - B marks: unconditional accuracy marks (independent of M marks)
- **Abbreviations**
    - cao – correct answer only o ft – follow through o isw – ignore subsequent working o SC - special case
    - oe – or equivalent (and appropriate)
    - dep – dependent o indep – independent o awrt – answer which rounds to o eeoo – each error or omission
- **No working**

  If no working is shown then correct answers normally score full marks
  If no working is shown then incorrect (even though nearly correct) answers score no marks.

- **With working**

  If there is a wrong answer indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.
  If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks.

  If a candidate misreads a number from the question. Eg. Uses 252 instead of 255; method marks may be awarded provided the question has not been simplified. Examiners should send any instance of a suspected misread to review. If there is a choice of methods shown, mark the method that leads to the answer on the answer line; where no answer is given on the answer line, award the lowest mark from the methods shown.

  If there is no answer on the answer line, then check the working for an obvious answer.

- **Ignoring subsequent work**

  It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: eg. Incorrect cancelling of a fraction that would otherwise be correct.

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect eg algebra.

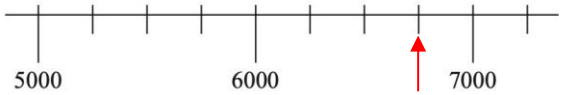
Transcription errors occur when candidates present a correct answer in working and write it incorrectly on the answer line; mark the correct answer.

- **Parts of questions**

  Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded to another.

International GCSE Maths				
Values in quotation marks must come from a correct method previously seen unless clearly stated otherwise.				
Q	**Working**	**Answer**	**Mark**	**Notes**
1 (a)		6705	1	B1 cao
(b)		427, 498, 512, 531, 567	1	B1 cao, all numbers must be present
(c)		7 hundredths	1	B1 for 7 hundredths clearly indicated and nothing else indicated – might be circled, underlined etc
(d)		24	1	B1 cao
(e)		31 and/or 37	1	B1 for 31 and/or 37 and no other number stated
				Total 5 marks

2 (a)		40	1	B1 cao
(b)		42	1	B1 cao
(c)		2 whole symbols and a half of a whole symbol indicated on diagram	1	B1 oe
				Total 3 marks

3 (a)		638	1	B1
(b)		6750 marked	1	B1 for any clear indication of the notch before 7000 allow an arrow from above or below or any other clear indication
(c)		8.7	1	B1 8.5 – 8.9
(d)		correct angle drawn	1	B1 for an angle of 66 – 70 degrees drawn
				Total 4 marks

Q	Working	Answer	Mark	Notes
4 (a)		$5y$	1	B1
(b)		c^4	1	B1
(c)		12	1	B1
(d)		5	1	B1
				Total 4 marks

5 (a)		3 squares shaded	1	B1
(b)		$\frac{3}{5}$	1	B1 cao
(c)		0.4	1	B1
(d)	$1-\frac{1}{5}\left(=\frac{4}{5}\right)$ or $1-0.2(=0.8)$ or $\frac{1}{5}$ x $80(=16)$ or 0.2 x 80 $(=16)$		2	M1 for a method to find the fraction or decimal of students that do not wear white T-shirts **or** for a method to find the number of students wearing white T-shirts
	Correct answer scores full marks (unless from obvious incorrect working)	64		A1
				Total 5 marks

Q	Working	Answer	Mark	Notes
6	500 (g) = 0.5 (kg) **or** 1 (kg) = 1000 (g) **or** 700 (g) = 0.7 (kg) **or** 3 (kg) = 3000 (g) **or** (500 + 700) ÷ 1000 (=1.2 (kg)) **or** (3 – 1) × 1000 (= 2000 (g)) **OR** 1500 (g) **or** 1.5 (kg) **or** 1700 (g) **or** 1.7 (kg) **or** 2500 (g) **or** 2.5 (kg) **or** 2300 (g) **or** 2.3 (kg)		4	B1 for a correct conversion of one suitable value from g to kg or kg to g **OR** correctly combines a value in g and a value in kg B1 implied by sight of 2200 (g) or 2.2 (kg)
	500 + digits 1000 + 700 **or** 500 + 1000 + 700 (= 2200) **or** digits 0.5 + 1 + digits 0.7 **or** 0.5 + 1 + 0.7 (= 2.2)			M1 for a complete method to find the total weight of the flour following an attempt to get consistent units for digits 1000, allow 10, 100, 1000, 0.1, 0.01, 0.001 etc, but do **not** allow 1 for digits 0.5, allow 5, 50, 5000, 0.5, 0.05 etc, but do **not** allow 500 for digits 0.7, allow 7, 70, 7000, 0.7, 0.07 etc, but do **not** allow 700
	eg digits 3000 – (500 + digits 1000 + 700) **or** 3000 – "2200" **or** 3 – (digits 0.5 + 1 + digits 0.7) **or** 3 – "2.2" (= 0.8)			M1 for finding the difference between the total weight and the total weight of flour in the containers allow subtraction to be reversed for this mark for digits 3000, allow 30, 300, 3000, 0.3, 0.03 etc, but do **not** allow 3

Q	Working	Answer	Mark	Notes
6	*Correct answer scores full marks (unless from obvious incorrect working)*	800		A1
				Total 4 marks

7		4 (hours) 35 (minutes)	2	B2 for 4 (hours) **and** 35 (minutes) (B1 for 4 (hours) **or** 35 (minutes))
				Total 2 marks

8		Correct table	4	B4 for a fully correct table (B3 for 9, 10 or 11 correct entries) (B2 for 6, 7 or 8 correct entries) (B1 for 3, 4 or 5 correct entries) Note: a 'correct entry' is a correct number in the correct place
				Total 4 marks

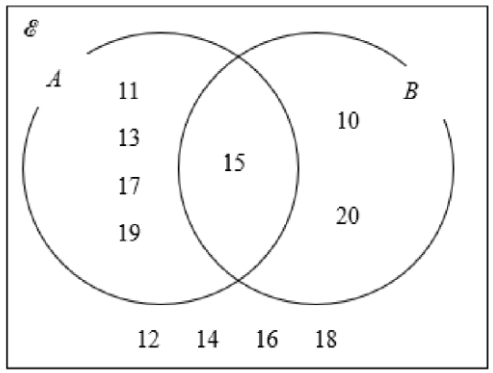
	Coffee	**Tea**	**Hot chocolate**	**Total**
Monday	58	36	46	140
Tuesday	40	70	50	160
Total	98	106	96	300

Q	Working	Answer	Mark	Notes
9 (i)		35	1	B1 allow seen on diagram if no contradiction
(ii)		110	1	B1 ft their value of x, ie $180 - 2x$ allow seen on diagram if no contradiction
				Total 2 marks

10	$12 \times 7.5 (= 90)$ **or** $12 \times 7.5 \times w = 324$ **or** $324 \div 12 (= 27)$ **or** $324 \div 7.5 (= 43.2)$		2	M for a correct first step 1
	Correct answer scores full marks (unless from obvious incorrect working)	3.6		A oe 1
				Total 2 marks

11	(a)		$28cd$	1	oe eg $28dc$ or $cd28$ or $dc28$
	(b)		$5w - 2y$	2	correct simplified expression, allow $-2y + 5w$ for $5w$ **or** $-2y$ seen) Note: $5w + -2y$ scores B1 only
	(c)		20	1	cao
	(d)		8, 10	1	both numbers and no others
					Total 5 marks

Q	Working	Answer	Mark	Notes
12	0.28 × 21 000 (= 5880) oe **or** (1 – 0.28) × 21 000 (= 15 120) oe **or** 21 000 ÷ 24 (= 875)		3	M1 for a method to find the deposit **or** the amount left to pay **or** the monthly payment without a deposit Note that a build-up method to find the percentage must be fully correct or clearly show the calculations if intermediate values are incorrect Use of % sign to indicate the calculation, eg 28% × 21 000, is **not** sufficient for this mark
	(21 000 – "5880") ÷ 24 **or** "15 120" ÷ 24 **or** "875" × (1 – 0.28) oe **or** "875" – (0.28 × "875") oe			M1 for a complete method
	Correct answer scores full marks (unless from obvious incorrect working)	630		A1 cao
				Total 3 marks

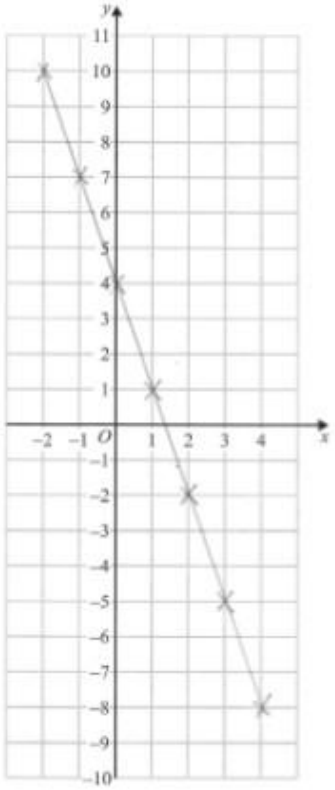
Q	Working	Answer	Mark	Notes
13		fully correct Venn diagram	3	B3 for all 4 regions of the Venn diagram diagram correct (B2 for 2 or 3 regions correct) (B1 for 1 region correct)
				Total 3 marks

14		Enlargement	3	B1	for enlargement with no mention of translate, reflect, rotate, move, flip etc Accept: enlargement, enlarge, enlarged
		(scale factor) 3		B1	for scale factor 3 with no mention of a vector, line of symmetry or angle Accept: scale factor 3, SF 3, × 3, factor of 3, three times
		(centre) (0, 0)		B1	allow 'origin' or O oe
					Total 3 marks

Q	Working	Answer	Mark	Notes	
15 (a)	$n+7$ **or** $3n$ **or** $4n+7$		2	M1	for sight of $n+7$ **or** $3n$ **or** $4n+7$ for $3n$, allow $3 \times n$ or $n3$ but do **not** allow this mark for $3n$ if n^3 also seen (mark as choice) Allow expressions to be seen within a sum, difference, product or quotient
	Correct answer scores full marks (unless from obvious incorrect working)	$n+n+7+3n$		A1	oe eg $2n+7+3n$ **or** $5n+7$ ISW if correct expression seen but then simplified incorrectly Condone a formula, eg $T = n+n+7+3n$ but do **not** allow $n = n+n+7+3n$ for A1
(b)	eg (Sid =) $72 \div 3$ (= 24) or (Erin =) $\frac{k}{3}+7$		2	M1	for correct method to find the number of counters Sid has **or** a correct expression for how many counters Erin has in terms of how many counters Kabir has (allow use of any letter in place of k, including n)
	Correct answer scores full marks (unless from obvious incorrect working)	31		A1	
					Total 4 marks

Q	Working	Answer	Mark	Notes
16	40 × 40 (= 1600) **or** 12 × 3 × 40 × 40 (= 57 600) **or** 80 × 200 (= 16 000) **or** 120 × 160 (= 19200) **or** 120 × 240 (= 28 800) **or** 80 × 80 (= 6400) **or** 160 × 80 (= 12 800) **or** 200 × 240 (= 48 000)		4	M1 for a method to find the area of a tile **or** the area of all the tiles Jim has **or** an area linked to the wall
	"19 200" + "16 000" (= 35 200) **or** "28 800" + "6400" (= 35 200) **or** "48 000" – "12 800" (= 35 200) oe **OR** "16 000" ÷ "1600" (=10) **or** "19 200" ÷ "1600" (=12) **or** "28 800" ÷ "1600" (=18) **or** "6400" ÷ "1600" (= 4) **or** "12 800" ÷ "1600" (=8) **or** "48 000" ÷ "1600 (=30)			M1 for a fully correct method to find the area of the wall **OR** for a method to find the number of tiles needed to cover an area linked to the wall
	"35 200" ÷ (40 × 40) (= 22) oe **or** "35 200" ÷ "1600" (= 22) **or** ("57 600" – "35 200") ÷ "1600" **or** "22 400" ÷ "1600" **OR** "10" + "12" (=22) **or** "18" + "4" (=22) **or** "30" – "8" (=22)			M1 for a correct method to find the number of tiles needed **or** for a correct method to find the number of tiles that are left over Do not allow this mark for 22 if clearly coming from wrong working (eg work with perimeter)
	Correct answer scores full marks (unless from obvious incorrect working)	14		A1 Accept 1 whole box + 2 tiles
	ALTERNATIVE			
	240 ÷ 40 (= 6) **or** 200 ÷ 40 (= 5) **or** 120 ÷ 40 (= 3) **or** 160 ÷ 40 (= 4) **or** 80 ÷ 40 (= 2)		4	M1 for a method to find the number of tiles along one edge, may be seen drawn along the edges on the diagram Do **not** allow for sight of these calculations embedded as part of an attempt at perimeter ÷ 40

	$3 \times 4 (= 12)$ **or** $5 \times 2 (= 10)$ **or** $2 \times 2 (= 4)$ **or** $3 \times 6 (= 18)$ **or** $6 \times 5 (= 30)$ **or** $4 \times 2 (= 8)$			M1 for a method to find the number of tiles needed to cover at least one area of the wall
	"12" + "10" (= 22) **or** "18" + "4" (= 22) **or** "30" – "8" (= 22)			M1 for a fully correct method to find the total number of tiles needed to cover the wall Do not allow this mark for 22 if clearly coming from wrong working (eg work with perimeter)
	Correct answer scores full marks (unless from obvious incorrect working)	14		A1 Accept 1 whole box + 2 tiles
				Total 4 marks

17	(–2, 10), (–1, 7), (0, 4), (1, 1), (2, –2), (3, –5), (4, –8) 	For a correct line between $x = -2$ and $x = 4$	3	B3	for a correct line between $x = -2$ and $x = 4$
				(B2	for a correct straight line segment through at least 3 of (–2, 10), (–1, 7), (0, 4), (1, 1), (2, –2), (3, –5) and (4, –8) **OR** for all of (–2, 10), (–1, 7), (0, 4), (1, 1), (2, –2), (3, –5) and (4, –8) plotted but not joined)
				(B1	for at least 2 correct points stated (may be in a table) or plotted **OR** for a line drawn with a negative gradient through (0, 4) **OR** for a line with a gradient of –3)
					Total 3 marks

Q	Working	Answer	Mark	Notes	
18	2.5 × 8 + 7.5 × 7 + 12.5 × 3 + 17.5 × 10 + 22.5 × 2 **or** 20 + 52.5 + 37.5 + 175 + 45 (= 330) [lower bound products are: 0, 35, 30, 150, 40] [upper bound products are: 40, 70, 45, 200, 50]		4	M2	for at least **4** correct products added (need not be evaluated) (M1 for use of values within interval (including end points) for at least **4** products added **or** correct midpoints used for at least 4 products and not added)
	"330" ÷ 30			M1	dep on M1 allow division by their ∑*f* provided addition or total under column seen
	Correct answer scores full marks (unless from obvious incorrect working)	11		A1	
					Total 4 marks

19	Any **two** from: 2 (or 4) **or** 60 **or** 9 (or 3)		2	M1	for rounding at least 2 of the 3 given numbers to one significant figure
	eg $\frac{2^2 \times 60}{\sqrt{9}} = 80 \text{ or } \frac{4 \times 60}{3} = 80$	80 with rounded calculation seen		A1	dep on M1, all figures rounded correctly and 80 given ignore any statements – just mark the rounded calculation
	Working required				
					Total 2 marks

Q	Working	Answer	Mark	Notes
20		Correct bisector with suitable arcs shown	2	B2 for a correct bisector with suitable arcs shown (B1 for suitable arcs but no bisector or a bisector without suitable arcs)
				Total 2 marks

21		$e = 2$	3	B3 for all three correct (B2 for **two** correct) (B1 for **one** correct)
		$f = 6$		
		$g = 10$		
				Total 3 marks

Q	Working	Answer	Mark	Notes
22	$\frac{26}{7}(+)\frac{5}{3}$ **or** $(3)\frac{15}{21}(+)(1)\frac{14}{21}$ oe or $(3)\frac{15a}{21a}(+)(1)\frac{14a}{21a}$ oe		3	M1 for correct improper fractions **or** fractional part of numbers written correctly over a suitable common denominator
	eg $\frac{78}{21}+\frac{35}{21}$ **or** $\frac{26\times3}{21}+\frac{5\times7}{21}$ **or** $\frac{26\times3+5\times7}{21}$ **or** $\frac{78a}{21a}+\frac{35a}{21a}$ **or** $3\frac{15}{21}+1\frac{14}{21}=4\frac{29}{21}$ oe **or** $4+\frac{15}{21}+\frac{14}{21}=4+1\frac{8}{21}$ oe			M1 for correct fractions with a common denominator with addition sign present or for working with mixed numbers to the stage shown implies the first M1
	eg $\frac{78}{21}+\frac{35}{21}=\frac{113}{21}=5\frac{8}{21}$ or $3\frac{15}{21}+1\frac{14}{21}=4\frac{29}{21}=5\frac{8}{21}$ If common denominator is not 21 then cancelling must be shown eg $\frac{156}{42}+\frac{70}{42}=\frac{226}{42}=\frac{113}{21}=5\frac{8}{21}$ oe or $\frac{156}{42}+\frac{70}{42}=\frac{226}{42}=5\frac{16}{42}=5\frac{8}{21}$ oe or $3\frac{30}{42}+1\frac{28}{42}=4\frac{58}{42}=4\frac{29}{21}=5\frac{8}{21}$ oe	A fully correct solution shown		A1 dep on M2, for a correct answer from fully correct working If a student shows that $5\frac{8}{21}=\frac{113}{21}$ and has working that shows LHS = $\frac{113}{21}$ this can gain full marks NB Use of decimals scores no marks unless as a check
	Working required			
				Total 3 marks

Q	Working	Answer	Mark	Notes
23	$\frac{275}{2+3}$ (= 55) **or** $\frac{275}{2+3}\times 2$ (= 110) **or** $\frac{275}{2+3}\times 3$ (= 165) **OR** $\frac{2}{5}\times\frac{3}{11}\left(=\frac{6}{55}\right)$ **or** $\frac{3}{5}\times 0.32\left(=\frac{24}{125}\right)$ oe		4	M1 for a method to find 1 part of the ratio **or** a method to find the amount of money that either Eli or Peta gets **OR** finds the proportion of the money that either Eli or Peta gives to charity Allow decimal equivalents eg 0.4 and 0.27(27…) throughout for M marks
	110" × $\frac{3}{11}$ (= 30) **or** "165" × 0.32 (= 52.8(0)) **OR** $"\frac{6}{55}"\times 275\ (=30)$ **or** $"\frac{24}{125}"\times 275\ (=52.8(0))$ **or** $"\frac{6}{55}"+"\frac{24}{125}"\left(=\frac{414}{1375}\right)$ **OR** $\left(1-\frac{3}{11}\right)\times"110"(=80)$ **and** (1 – 0.32) × "165" (= 112.2(0))			M1 for a method to find the amount of money that either Eli or Peta gives to charity **OR** finds total proportion of the money that will be given to charity **OR** for a method to find the amount of money that Eli keeps **and** the amount of money that Peta keeps

	"110" × $\frac{3}{11}$ (= 30) **and** "165" × 0.32 (= 52.8(0)) **OR** "$\frac{6}{55}$" × 275 (= 30) **and** "$\frac{24}{125}$" × 275 (= 52.8(0)) **OR** "$\frac{414}{1375}$" × 275 **OR** $\left(1-\frac{3}{11}\right)\times$"110"+(1 – 0.32) × "165"(=192.2(0))			M1 for a method to find the amount of money that both Eli **and** Peta gives to charity **OR** for a complete method **OR** for a method to find the total amount of money both Eli and Peta keep
	Correct answer scores full marks (unless from obvious incorrect working)	82.8(0)		A1
				Total 4 marks

Q	Working	Answer	Mark	Notes
24 (a)		474.5	1	B1
(b)		125	1	B1 allow 124.9 or 124.999(9…)
				Total 2 marks

25	eg $(8^{-2} \times 8^{9} =) 8^{-2+9}$ or 8^{7} or 2^{-6+27} or 2^{21} **or** $(8^{-2} \div 8^{10} =) 8^{-2-10}$ or 8^{-12} or $\frac{1}{8^{12}}$ or 2^{-6-30} or 2^{-36} or $\frac{1}{2^{36}}$ **or** $(8^{9} \div 8^{10} =) 8^{9-10}$ or 8^{-1} or $\frac{1}{8^{(1)}}$ or 2^{27-30} or 2^{-3} or $\frac{1}{2^{3}}$ **or** $(8^{n} \times 8^{10} =) 8^{n+10}$ or 2^{3n+30} **OR** $-2 + 9 = n + 10$ oe eg $-6 + 27 = 3n + 30$ oe **OR** $-2 + 9 - 10$ oe eg $\frac{-6+27-30}{3}$ oe		2	M1	for one correct application of an index rule (must be seen in powers of 8 or correct conversion to powers of 2) this could be after an initial mistake – working will need to be clearly seen **OR** for forming a correct equation in the indices alone **OR** for a complete method for the value of *n*
	Correct answer scores full marks (unless from obvious incorrect working)	–3		A1	Accept 8^{-3} or $(2^{3})^{-3}$
					Total 2 marks

Q	Working	Answer	Mark	Notes
26	**100(%) + 12(%) (= 112(%))** or **1 + 0.12 (= 1.12) oe** **or** $\frac{140}{112}$ (=1.25) oe		3	M1 may be seen embedded Do **not** allow (1 + 12%) unless correctly processed
	$\frac{140}{"1.12"}$ **or** $\frac{140}{112} \times 100$ oe			M1 for a complete method
	Correct answer scores full marks (unless from obvious incorrect working)	125		A1
				Total 3 marks

Q	Working	Answer	Mark	Notes
27 (a)		1	1	B1
(b)	eg $5y - 7y < 1 - 20$ **or** $-2y < -19$ oe **or** $20 - 1 < 7y - 5y$ **or** $19 < 2y$ oe **or** $y = 9.5$ **or** $y < 9.5$		2	M1 for correctly isolating terms in y on one side and number terms on the other side of an inequality or an equation Ignore incorrect inequality signs for this mark
	Correct answer scores full marks (unless from obvious incorrect working)	$y > 9.5$		A1 oe eg $\frac{19}{2} < y$ Must have correct inequality symbol on answer line NB sight of correct answer in working space but just ($y =$) 9.5 on answer line gains M1 only
(c)		$5w^2x^2(3x^3 + 5w)$	2	B2 for the correct factorisation (B1 for a correct partial factorisation of at least 2 different terms outside the bracket eg $5wx(3wx^4 + 5w^2x)$ or $5w^2(3x^5 + 5wx^2)$ **or** for the correct highest common factor on the outside and one term inside the bracket correct eg $5w^2x^2(3x^3 + ...)$ or $5w^2x^2(... + 5w)$ **or** for $(3x^3 + 5w)$ as a factor

(d)		$3a^3c^4$	2	B2 oe eg $\frac{3a^3}{c^{-4}}$ (B1 for a single product with any two of 3, a3, c4 correct, eg 3a3cn where n ≠ 4 or 3amc4 where m ≠ 3 or pa3c4 where p ≠ 3. One term can be missing with 2 correct for B1)
				Total 7 marks

Q	Working	Answer	Mark	Notes
28	eg $\cos(ACB)=\frac{15}{21}$ **or** $\sin(ACB)=\frac{\sqrt{21^2-15^2}}{21}$ oe **or** 44.4(153...) **or** $\tan(DCB)=\frac{9}{15}$ **or** $\sin(DCB)=\frac{9}{\sqrt{9^2+15^2}}$ oe **or** 30.9(637...) **or** $\tan(BDC)=\frac{15}{9}$ **or** $\sin(BDC)=\frac{15}{\sqrt{9^2+15^2}}$ oe **or** 59.0(362...) **or** $\sin(BAC)=\frac{15}{21}$ **or** 45.5(846...) **OR** $(AB=)\ \sqrt{21^2-15^2}$ $(=\sqrt{216}=6\sqrt{6}=14.6(969...))$ **OR** $(DC=)\ \sqrt{15^2+9^2}$ $(=\sqrt{306}=3\sqrt{34}=17.4(928...))$		4	M1 for a correct trig statement for angle *ACB* **or** angle *DCB* **or** angle *BDC* **or** angle *BAC* **OR** for use of Pythagoras to find *AB* or *DC* Allow use of any letter to represent the angles or sides Calculations or values do not need to be linked to the correct side or angle

	eg $\cos(ACB)=\frac{15}{21}$ **or** $\sin(ACB)=\frac{\sqrt{21^2-15^2}}{21}$ oe **or** 44.4(153...) **and** $\tan(DCB)=\frac{9}{15}$ **or** $\sin(DCB)=\frac{9}{\sqrt{9^2+15^2}}$ oe **or** 30.9(637...) **OR** $\frac{\sin ACD}{"14.6..."-9}=\frac{\sin(180-"59.0")}{21}$ oe **or** $\frac{\sin ACD}{"14.6..."-9}=\frac{\sin"45.5(846...)}{"17.4(928...)"}$ oe **or** $("14.6..."-9)^2=21^2+"17.4"^2-2\times21\times"17.4"\times\cos ACD$ oe			M1	for a correct trig statement for angle *ACB* **and** angle *DCB* or angle *BAC* **and** angle *DCB* or angle *BAC* **and** angle *ADC* **OR** for a correct trig statement involving angle *ACD* Allow use of any letter to represent the angles or sides Calculations or values do not need to be linked to the correct side or angle

	eg "44.4(153…)" – "30.9(637…)" **OR** $\sin(ACD)=\frac{\sin(180-"59.0")}{21}\times("14.6..."-9)$ $(=0.232...)$ oe **or** $\cos(ACD)=\frac{21^2+"17.4"^2-("14.6..."-9)^2}{2\times21\times"17.4"}$ $(=0.972...)$ oe			M1	for a complete method **OR** for a correct trig statement for angle *ACD* Allow use of any letter to represent the angle
	Correct answer scores full marks (unless from obvious incorrect working)	**13.5**		A1	Answer in range 13.4 – 13.6
					Total 4 marks

29	$9x + 27 + 2x - 23 = 180$ oe eg $11x + 4 = 180$ **or** $\frac{180-27+23}{9+2}(=16)$ **or** $\frac{180-4}{11}(=16)$		4	M1	for using the angle sum on a line to form an equation in x **or** for a numerical method to find x using the angle sum on the line
	$2\times"16"-23\ (=9)$ **or** $9\times"16"+27\ (=171)$			M1	for using the value of x to find the exterior or interior angle
	eg $\frac{360}{n}="9"$ oe **or** $(n=)\frac{360}{"9"}$ $\frac{180(n-2)}{n}="171"$ oe **or** $(n=)\frac{360}{180-"171"}$			M1	for using the formula for an exterior or an interior angle to form an equation in n **or** for a complete method to find n
	Correct answer scores full marks (unless from obvious incorrect working)	**40**		A1	
					Total 4 marks