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MATHEMATICS

9260/2E

Extension Tier Paper 2E

Mark scheme

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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.

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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 $\leqslant$ 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(a)	$ab^2(a^2b^2 + 1)$ or $ab^2[(ab)^2 + 1]$	B1	allow multiplication signs
	Additional Guidance		
	Condone missing final bracket		
	$(ab^2)(a^2b^2 + 1)$	B1	

Q	Answer	Mark	Comments
1(b)	$6\frac{1}{3}$	B2	oe B1 $-\frac{2}{3} \times 4 + 9$ or $-\frac{8}{3} + 9$ or $\frac{19}{3}$ or $6.\dot{3}$ or correct conversion of an improper fraction to a mixed number

Q	Answer	Mark	Comments
1(c)	$3p = 7r + 5 + 1$ or $3p = 7r + 6$ or $\frac{7r+6}{3}$	M1	
	$p = \frac{7r+6}{3}$ or $\frac{7r+6}{3} = p$	A1	oe with p as the subject eg $p = \frac{7r}{3} + 2$
	Additional Guidance		
	$p = \frac{7r+6}{3}$ in working with $\frac{7r+6}{3}$ on answer line	M1A1	

Q	Answer	Mark	Comments
2	25	B1	

Q	Answer	Mark	Comments
3	$\frac{84}{60}$ (× 100) or 1.4 (× 100) or $\frac{84-60}{60}$ × 100 or $\frac{24}{60}$ × 100 or 40	M1	oe
	140	A1	

Q	Answer	Mark	Comments
4(a)	$y = 6$	B1	oe eg $y - 6 = 0$

Q	Answer	Mark	Comments
4(b)	$2x = 6$	M1	may be on diagram implied by (3, 6) or (3, 0)
	$x = 3$	A1	oe eg $x - 3 = 0$
	Additional Guidance		
	$2x = 6$ on answer line		M1A1
	$2x = 6$ and further working eg $x = 12$		M1A0
	$x = 3$ in working with an incorrect equation on the answer line		M1A0

Q	Answer	Mark	Comments
5	False True True False	B3	B2 3 correct B1 1 or 2 correct
	Additional Guidance		
	Any unambiguous indication, but if a tick and a cross are used in the same row, mark the tick		
	A row with more than one tick is incorrect for that row		

Q	Answer	Mark	Comments
6	$x + 4 + 2x - 1 + 2x + 3 = 28.5$ or $5x + 6 = 28.5$	M1	oe eg $28.5 - 3 - 4 + 1 = 2x + 2x + x$
	$(5x =)$ 22.5 or $(x =)$ 4.5 or $(x + 4 =)$ 8.5 or $(2x + 3 =)$ 12	M1dep	
	8	A1	
	Additional Guidance		
	Answer $2x - 1$ with $(2x - 1 =)$ 8 in working		M1M1A1

Q	Answer	Mark	Comments
7	**Alternative method 1: works with actual values**		
	$(1 - 0.28) \times 35\,000$ or $0.72 \times 35\,000$ or $35\,000 - 0.28 \times 35\,000$ or $35\,000 - 9800$ or $25\,200$	M1	oe eg $(1 - 28\%) \times 35\,000$
	$(1 - 0.15)^2 \times$ their $25\,200$ or $0.85^2 \times$ their $25\,200$ or $18\,207$ or $16\,793$	M1dep	oe eg $0.85 \times 25\,200 = 21\,420$ followed by $0.85 \times 21\,420$
	No and $18\,207$ and $17\,500$ or No and $36\,414$ or No and $18\,207 = 52(.02)\%$ or No and $16\,793 = 47.98\%$	A1	oe accept 48% for 47.98%
	Alternative method 2: works with percentages		
	$1 - 0.28$ or 0.72 and $1 - 0.15$ or 0.85	M1	oe
	0.72×0.85^2 or $0.52(02)$ or $52(.02)\%$ or 47.98% or 48%	M1dep	oe
	No and $52(.02)\%$ or No and 47.98%	A1	oe eg No and It is 0.52 (more than half) accept 48% for 47.98%

Q	Answer	Mark	Comments
8	2^{17-5} or 2^{12} or 4096 or $2^{(3\times a)}$ or 2^{3a} or $a \times 3 = 17 - 5$ or $3a = 12$ or $(2^a =) \sqrt[3]{2^{17} \div 2^5}$ or $(2^a =) \sqrt[3]{2^{12}}$ or $(2^a =) 2^4$ or $(2^a =) 16$	M1	
	4	A1	

Q	Answer	Mark	Comments
9	**Alternative method 1: using co-interior angles**		
	180 – 60 or 120	M1	may be seen in correct place on diagram
	360 = 90 + their 120 + x or 360 – 90 – their 120 or 150	M1dep	oe eg 360 = 90 + their 120 + $2y$ may use any letter(s) to indicate angles
	their 150 ÷ 2 or 75	M1dep	may be seen on diagram for *DAC* or *BAC*
	165	A1	
	Alternative method 2: extends AB to meet North line from D		
	180 – 90 – 60 or 30	M1	seen in correct place on diagram
	180 – their 30 or 150	M1dep	
	their 150 ÷ 2 or 75	M1dep	may be seen on diagram for *DAC* or *BAC*
	165	A1	
	Alternative method 3: extends North line from A downwards		
	60 seen as alternate angle	M1	seen in correct place on diagram
	60 + 90 or 150	M1dep	oe
	their 150 ÷ 2 or 75	M1dep	may be seen on diagram for *DAC* or *BAC*
	165	A1	
	Alternative method 4: extends DA		
	60 seen as corresponding angle	M1	seen in correct place on diagram
	180 – (90 – 60) or 150	M1dep	oe
	their 150 ÷ 2 or 75	M1dep	may be seen on diagram for *DAC* or *BAC*
	165	A1	
	Additional Guidance		
	Up to M3 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts.		

Q	Answer	Mark	Comments
10	$6x - 21 = 4x + 3$ or $180 - (6x - 21) + 4x + 3 = 180$ or $180 - (4x + 3) + 6x - 21 = 180$	M1	oe
	$6x - 4x = 3 - (-21)$ or $2x = 24$ or $x = 12$	M1dep	oe implied by $6x - 21 = 51$ or $4x + 3 = 51$
	129	A1	
	Additional Guidance		
	Missing brackets must be recovered		

Q	Answer	Mark	Comments
11	25 49 with no extras	B2	B1 list of square numbers including 25 36 and 49 or 25 and 49 and one extra or 25 or 49 and no extras
	Additional Guidance		
	Only 25 and 49 listed and answer 2		B1

Q	Answer	Mark	Comments
12	$9 \div 15 \times 100$ or 60	M1	oe
	$\frac{49}{125} \times$ their 60 or 23.52 or $\frac{76}{125} \times$ their 60	M1dep	oe
	36.48	A1	SC1 [6.43, 6.44]
	Additional Guidance		
	SC1 for starting with 85% = 9		

Q	Answer	Mark	Comments
13	F E C A	B4	B1 for each correct

Q	Answer	Mark	Comments
14	**Alternative method 1: using lower limit**		
	375 or 385 or 0.375 or 0.385	M1	
	their 375 × 50 (÷ 1000) or 18 750 or their 0.375 × 50 or 18.75 or 19 000 ÷ 375 or 50.6… or 50.7 or 19 ÷ 0.375 or 50.6… or 50.7	M1	their 375 must be [370, 380) their 0.375 must be [0.37, 0.38)
	18.75 and No or 18 750 (and 19 000) and No or 50.6… and No or 50.7 and No	A1	
	Alternative method 2: counter example using amount in one glass		
	19 000 ÷ 50 = 380 or 380 × 50 = 19 000 **and** (glass could hold) [375, 380) **and** No	B3	oe in litres any value in range
	Alternative method 3: counter example using total volume		
	[375, 380) × 50 correctly evaluated (and 19 000) and No	B3	any value in range oe in litres
	Additional Guidance		
	Accept 0.3849… for 0.385 and 384.9… for 385		
	There are no part marks for alternative methods 2 and 3		

Q	Answer	Mark	Comments
15	(Angle in equilateral triangle =) 60	M1	may be on any correct angle in diagram
	(Interior angle in regular octagon =) $\frac{(8-2)\times 180}{8}$ or $180 - (360 \div 8)$ or 135 or exterior angle = 45	M1	oe 135 or 45 may be on any correct angle in diagram
	(180 – their 135) ÷ 2 or 22.5	M1dep	oe 22.5 may be on either correct angle in the diagram dep on previous M1
	52.5	A1	

Q	Answer	Mark	Comments
16	**Alternative method 1: expands $(x-5)(x-4)$ first**		
	$x^2-5x-4x+20$ with at least three terms correct or x^2-9x+k where k is a non-zero constant	M1	oe no omissions or extra terms
	$x^3-5x^2-4x^2+20x+3x^2-15x-12x+60$ or $x^3-9x^2+20x+3x^2-27x+60$	M1dep	attempt at full expansion with correct multiplication of their 3 or 4 terms by one of the terms in the remaining bracket oe
	$x^3-6x^2-7x+60$	A1	
	Alternative method 2: expands $(x-4)(x+3)$ first		
	$x^2-4x+3x-12$ with at least three terms correct or x^2-x+k where k is a non-zero constant	M1	oe no omissions or extra terms
	$x^3-4x^2+3x^2-12x-5x^2+20x-15x+60$ or $x^3-x^2-12x-5x^2+5x+60$	M1dep	attempt at full expansion with correct multiplication of their 3 or 4 terms by one of the terms in the remaining bracket oe
	$x^3-6x^2-7x+60$	A1	

The mark scheme for question 16 continues on the next page

Q	Answer	Mark	Comments
16 cont	**Alternative method 3: expands $(x-5)(x+3)$ first**		
	$x^2-5x+3x-15$ with at least three terms correct or x^2-2x+k where k is a non-zero constant	M1	oe no omissions or extra terms
	$x^3-5x^2+3x^2-15x-4x^2+20x-12x+60$ or $x^3-2x^2-15x-4x^2+8x+60$	M1dep	attempt at full expansion with correct multiplication of their 3 or 4 terms by one of the terms in the remaining bracket oe
	$x^3-6x^2-7x+60$	A1	
	Additional Guidance		
	The method marks may be seen in a grid		
	If an attempt to expand all three brackets at once it must be fully correct to score M2A1 otherwise M0		
	Ignore equating to zero or solving an equation		
	Correct answer followed by an attempt to factorise		M2A0

Q	Answer	Mark	Comments
17	(–2, 13)	B2	implied by correct answer B1 each coordinate
	(–1.5, 11)	B2ft	B1ft each coordinate ft their (–2, 13)
	Additional Guidance		
	(*C* =) (–2, 15) Answer (–1.5, 12)		B1 B2ft
	(*C* =) (5.5, 4) Answer (2.25, 6.5)		B0 B2ft

Q	Answer	Mark	Comments
18	Box plot with lowest at 4 lower quartile at 14 median at 17 upper quartile at 23 highest at 29	B3	B2 box plot with three or four criteria met B1 14 or 29 seen or indicated
	Additional Guidance		
	Allow ends of whiskers to have vertical lines, dots or nothing		
	Box plot must have two whiskers and a central box with no more than one vertical division for B2 or B3		

Q	Answer	Mark	Comments
19	**Alternative method 1: one or two terms with a common denominator**		
	Two terms written over a common denominator with at least one numerator correct	M1	eg $\frac{5(2x-3)}{4\times5}$ (+) $\frac{4(7-x)}{4\times5}$ or $\frac{10x-15}{20}$ (+) $\frac{28-4x}{20}$ or $\frac{5(2x-3)+4(7-x)}{4\times5}$
	$\frac{10x-15}{20}+\frac{28-4x}{20}$ or $\frac{10x-15+28-4x}{20}$	M1dep	oe common denominator numerators must have brackets expanded
	$\frac{6x+13}{20}$ or $\frac{3x}{10}+\frac{13}{20}$	A1	oe decimals
	Alternative method 2: splitting into four terms		
	$\frac{10x}{20}$ (–) $\frac{4x}{20}$ or $\frac{6x}{20}$ or $-\frac{15}{20}$ (+) $\frac{28}{20}$ or $\frac{13}{20}$	M1	oe common denominator for x terms or number terms oe in decimals
	$\frac{10x}{20}-\frac{4x}{20}-\frac{15}{20}+\frac{28}{20}$	M1dep	oe common denominator or decimals
	$\frac{6x+13}{20}$ or $\frac{3x}{10}+\frac{13}{20}$	A1	oe decimals
	Additional Guidance		
	Further incorrect work following correct answer, eg $\frac{6x+13}{20}=\frac{19x}{20}$		M1M1A0

Q	Answer	Mark	Comments
20	**Alternative method 1: using triangle *AOB* then *ABC***		
	OAB = 21	M1	may be seen on the diagram
	OAC = 90	M1	may be seen on the diagram
	180 – 21 – 21 – 90	M1dep	oe dep on M2
	48	A1	
	Alternative method 2: using triangle *AOB* then *AOC*		
	OAB = 21	M1	may be seen on the diagram
	OAC = 90	M1	may be seen on the diagram
	180 – 90 – [180 – (180 – 21 – 21)] or 180 – 90 – 42	M1dep	oe dep on M2
	48	A1	
	Alternative method 3: creates point *D* on *OC* at the circumference		
	DAB = 90	M1	may be seen on the diagram (angle in a semicircle)
	CAD = 21	M1	may be seen on the diagram (alternate segment theorem)
	180 – 21 – (90 + 21) or 180 – 21 – [180 – (90 – 21)]	M1dep	dep on M2 (triangle *ABC*) (triangle *ACD*)
	48	A1	

Q	Answer	Mark	Comments
21	$\frac{8}{125}$	B2	oe fraction B1 8 and 125 or 2^3 and 5^3 or $\left(\frac{2}{5}\right)^3$ or $\frac{1}{2.5^3}$ or 0.064
	Additional Guidance		
	Ignore conversion to a decimal or further simplification after $\frac{8}{125}$ seen		
	0.064 without $\frac{8}{125}$ seen		B1
	8 : 125		B1

Q	Answer	Mark	Comments
22	$y \geqslant 0$ and $y < \frac{1}{2}x$ and $y \leqslant -x + 4$	B3	oe B2 two correct inequalities or all three with one or more sign error but otherwise correct B1 one correct inequality or any two with one or more sign error but otherwise correct

Q	Answer	Mark	Comments
23	$12.8^2 = 16^2 + 19.4^2 - 2 \times 16 \times 19.4 \times \cos x$ or $163.84 = 632.36 - 620.8 \cos x$	M1	oe equation in $\cos x$
	$\cos x = \left(\dfrac{16^2 + 19.4^2 - 12.8^2}{2 \times 16 \times 19.4}\right)$ or $\cos x = \dfrac{468.52}{620.8}$ or $\cos x = 0.75\ldots$ or $(x =)\ \cos^{-1}\left(\dfrac{16^2 + 19.4^2 - 12.8^2}{2 \times 16 \times 19.4}\right)$ or $(x =)\ \cos^{-1} 0.75\ldots$	M1dep	oe equation with subject $\cos x$ oe inverse cos
	[40.97, 41.41]	A1	
	Additional Guidance		
	Ignore incorrect notation only if recovered eg $(x =)$ cos 0.75 with answer 41.4		M1M1A1

Q	Answer	Mark	Comments
24	Splits $\sqrt{72}$ or $\sqrt{20}$ into a product including a square number	M1	eg $\left(\sqrt{72}=\right)\sqrt{36}\times\sqrt{2}$ or $\sqrt{9}\times\sqrt{8}$ implied by $6\sqrt{2}$ or $6\sqrt{5}$
	$\left(\sqrt{72}=\right)\ 6\sqrt{2}$ or $\left(3\sqrt{20}=\right)\ 6\sqrt{5}$	M1	
	$6\left(\sqrt{2}+\sqrt{5}\right)$ or $a=2$ and $b=5$	A1	accept in either order
	Additional Guidance		
	$6\left(\sqrt{2}+\sqrt{5}\right)$ followed by $a=\sqrt{2}$ and $b=\sqrt{5}$		M1M1A0

Q	Answer	Mark	Comments
25	**Alternative method 1: using 0 – 16**		
	Two of 4×0.5 or 2 5×2 or 10 10×3.1 or 31 13×1 or 13	M1	oe may be seen on the diagram
	$(4 \times 0.5) + (5 \times 2) + (10 \times 3.1) + (13 \times 1)$ or $2 + 10 + 31 + 13$ or 56	M1dep	oe
	$(16 - 9) \times 3.1$ or 21 or 21.7 or 22 or 33 or 33.7 or 34	M1	oe
	(their 2 + their 10 + their 21.7) ÷ their 56 or 0.589… or [0.601, 0.602] or 0.607…	M1dep	oe dep on M3
	58.9… or [60.1, 60.2] or 60.7… with at least M2 scored	A1	accept 59 or 60 or 61

The mark scheme for question 25 continues on the next page

Q	Answer	Mark	Comments	
25 cont	**Alternative method 2: using 16 – 32**			
	Two of 4×0.5 or 2 5×2 or 10 10×3.1 or 31 13×1 or 13	M1	oe	
	$(4 \times 0.5) + (5 \times 2) + (10 \times 3.1) +$ (13×1) or $2 + 10 + 31 + 13$ or 56	M1dep	oe	
	$(19 - 16) \times 3.1$ or 9.3 or 9 or 22 or 22.3 or 23 or 33 or 33.7 or 34	M1	oe	
	(their 56 – their 13 – their 9.3) ÷ their 56 or 0.589… or [0.601, 0.602] or 0.607… **or** (their 13 + their 9.3) ÷ their 56 × 100 or 39.2… or 39.3 or [39.8, 39.9] or 41.0… or 41.1	M1dep	oe dep on M3 accept 39 or 40 or 41	
	58.9… or [60.1, 60.2] or 60.7… with at least M2 scored	A1	accept 59 or 60 or 61	
	Additional Guidance			
	eg $(16 - 9) \times 3.1 + (9 - 4) \times 2 + (4 - 0) \times 0.5$			scores 1st and 3rd M1

Q	Answer	Mark	Comments
26	$\frac{4}{\frac{1}{\sqrt{2}}} = \frac{w}{\frac{\sqrt{3}}{2}}$ or $\frac{4}{\sin x} = \frac{w}{\sin y}$	M1	oe equation
	$\frac{4\sqrt{3}}{2} = \frac{w}{\sqrt{2}}$ or $(w =)\ \frac{4\sqrt{3}\sqrt{2}}{2}$ or $(w =)\ \frac{4\sqrt{6}}{2}$	M1dep	oe equation or expression with no fractions in numerator or denominator
	$2\sqrt{6}$	A1	oe in form $c\sqrt{d}$ eg $1\sqrt{24}$

Q	Answer	Mark	Comments
27	15×3 or 45 or $\frac{1}{15} = \frac{3}{x+y+3+10}$	M1	oe calculation or equation any two letters may be seen as $\frac{3}{45}$ implied by circles totalling 35 may be embedded
	7×3 or 21 or $\frac{1}{7} = \frac{3}{x+3}$	M1	oe calculation or equation any letter may be seen as $\frac{3}{21}$ implied by 18 in left of R
	18 in left of R and 14 in right of T	A1	SC2 14 in left of R and 18 in right of T
	Additional Guidance		
	$\frac{1}{15} \div \frac{1}{7} \times 15 \times 3$ or $\frac{7}{15} \times 15 \times 3$		M1M1
	Condone 21 in left of R for second M mark eg 21 seen in left of R and 11 in right of T		M1M1A0
	18 in left of R (without 15×3 or 45 or 14 in right of T also seen)		M0M1A0
	21 with no other creditworthy work		M0M1A0

<table>
<tr><th>Q</th><th>Answer</th><th>Mark</th><th>Comments</th></tr>
<tr><td rowspan="8">28</td><td>$3n^2 + 2n - 5$</td><td>B4</td><td>B3
$3n^2 + 2n\ (+ c)$
or
$3n^2\ (+ bn) - 5$
B2
$3n^2\ (+ bn + c)$
or
$an^2\ (+ bn) - 5$ with $a \neq 0$
B1
second difference = 6</td></tr>
<tr><td colspan="3">Additional Guidance</td></tr>
<tr><td colspan="2">Terms may be in any order</td><td></td></tr>
<tr><td colspan="2">Second difference = 6 scores B1 even if used incorrectly
eg second difference = 6 with answer $6n$</td><td>B1</td></tr>
<tr><td colspan="2">6 must be the second difference to score B1
eg answer $6n - 6$ with no working or statement that 6 is the second difference</td><td>B0</td></tr>
<tr><td colspan="2">Condone $n = 3n^2 + 2n - 5$</td><td>B4</td></tr>
<tr><td colspan="2">Condone $3n^2 + 2n - 5 = 0$</td><td>B4</td></tr>
<tr><td colspan="2">Condone $3x^2 + 2x - 5$</td><td>B4</td></tr>
</table>

Q	Answer	Mark	Comments
29(a)	$y+2=4x$ or $\frac{y+2}{4}$ or $x+2=4y$	M1	
	$\frac{x+2}{4}$	A1	oe eg $\frac{x}{4}+\frac{1}{2}$
	Additional Guidance		
	$y=\frac{x+2}{4}$ on answer line		M1A1
	$x=\frac{x+2}{4}$ on answer line		M1A0

Q	Answer	Mark	Comments
29(b)	$4x^2-2\ (=7)$	M1	
	$4x^2=9$ or $x^2=\frac{9}{4}$ or $(2x-3)(2x+3)\ (=0)$ or $(x=)\ \frac{0\pm\sqrt{0^2-4\times4\times-9}}{2\times4}$ or $(x=)\ \frac{3}{2}$ or $(x=)-\frac{3}{2}$	M1dep	oe
	$\pm\frac{3}{2}$	A1	oe SC1 $\frac{2\pm\sqrt{7}}{4}$ or $-0.16\ldots$ and $1.16\ldots$
	Additional Guidance		
	$4\times x^2-2$		M1
	SC1 from using $(4x-2)^2=7$		

Q	Answer	Mark	Comments
30	**Alternative method 1: using $x = 0.439\ldots$**		
	Multiplication by a power of 10 with correct result	M1	eg $10x = 4.3939\ldots$ or $100x = 43.9393\ldots$ or $1000x = 439.3939\ldots$ 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 $990x = 435$ eg $\frac{435}{990}$
	$\frac{29}{66}$ with M1M1 seen	A1	
	Alternative method 2: using $x = 0.039\ldots$		
	Correct equation formed from subtraction of two equations to eliminate recurring digits or correct fraction	M1	eg $990x = 39$ or $\frac{39}{990}$ or $\frac{13}{330}$
	$\frac{4}{10}$ + their correct fraction, which may include a decimal numerator	M1dep	oe
	$\frac{4}{10}$ + their correct fraction written as a sum of fractions with a common denominator and $\frac{29}{66}$ with M2 seen	A1	
	Additional Guidance		
	Ignore attempt to simplify a correct fraction eg $\frac{29}{66} = \frac{15}{33}$		
	$\frac{29}{66}$ 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
31	$25^2 - 20^2$ or 225 or $\sqrt{25^2 - 20^2}$ or $\sqrt{225}$ or 15	M1	oe correct method to work out *AD*
	$\tan 30 = \frac{x}{25}$ or $\frac{\sin 60}{25} = \frac{\sin 30}{x}$	M1	oe x may be *HD* or any letter
	$25 \times \tan 30$ or $\frac{25 \sin 30}{\sin 60}$ or [14.4, 14.434]	M1dep	oe eg $\frac{25\sqrt{3}}{3}$ or $\frac{25}{\sqrt{3}}$ dep on 2nd M1
	[4320, 4330.2] or $2500\sqrt{3}$ or $\frac{7500}{\sqrt{3}}$	A1	