

Q1. (2019)

1	9	B1	
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Q2. (2019)

13	One of (102 →) 100 (8.14 →) 8	M1	
	their 100 = $0.5 \times x^2 \times$ their 8 or ($x^2 \Rightarrow$) their 100 $\div 8 \times 2$ or ($x^2 \Rightarrow$) 100 $\div$ their 8 $\times 2$ or 25 or their $8 \times 5 \times 5 \times 0.5 = 100$ or $8 \times 5 \times 5 \times 0.5 =$ their 100	M1dep	oe must have used at least one correct 1 sf value
	5 with M2 seen	A1	
	Additional Guidance		
	If working is done with approximations and with the given values ignore the working with the given values and mark the working with approximations		

Q3. (2019)

27	$\sin 60^\circ = \frac{\sqrt{3}}{2}$ or $\tan 30^\circ = \frac{\sqrt{3}}{3}$ or $\frac{1}{\sqrt{3}}$ or $\tan 30^\circ (= \frac{\sin 30}{\cos 30}) = \frac{1/2}{\sqrt{3}/2}$	M1	oe may be in a table may be implied by position in multiplication
	$\frac{\sqrt{3}}{2} \times \frac{1}{\sqrt{3}} = \frac{1}{2}$ or $\cos x = \frac{1}{2}$ or ($x \Rightarrow$) $\cos^{-1} \frac{1}{2}$	M1dep	oe works out the value of $\cos x$ as a fraction or decimal with no surd values
	60 with M2 awarded	A1	
	Additional Guidance		
	$\cos x = 60$ does not score the final mark		

Q4. (2023)

Q	Answer	Mark	Comments
25	$\sin 30 = \frac{1}{2}$ or $\tan 45 = 1$ or $\cos 30 = \frac{\sqrt{3}}{2}$	M1	oe eg $\tan 45 = \frac{\sqrt{2}}{\sqrt{2}}$ or $4 \sin 30 = 2$ or $2 \cos 30 = \sqrt{3}$ implied by position in the expression may be seen in a table
	substitution of all three correct values	M1dep	eg $\frac{4 \times \frac{1}{2} - 1}{2 \times \frac{\sqrt{3}}{2}}$ or $\frac{2-1}{2 \times \frac{\sqrt{3}}{2}}$ or $\frac{2-1}{\sqrt{3}}$
	$\frac{1}{\sqrt{3}}$ or $\frac{\sqrt{3}}{3}$	M1dep	
	($\frac{1}{\sqrt{3}}$ or $\frac{\sqrt{3}}{3} \Rightarrow$) $\tan 30$ or $x = 30$ with full working seen for M3	A1	
	Additional Guidance		
Allow $\sqrt{1}$ for 1 throughout			
Reference to 30° being an acute angle is not required			