

Q1. (2020)

Q	Answer	Mark	Comments
5	Alternative method 1		
	cos and $\frac{9}{18}$ oe identified	M1	
	60	A1	
	Alternative method 2		
	sin and $\frac{\sqrt{18^2 - 9^2}}{18}$ identified or tan and $\frac{\sqrt{18^2 - 9^2}}{9}$ identified	M1	
	60	A1	
	Additional Guidance		
	Accept an embedded answer, eg $\cos 60 = \frac{9}{18}$ with no further working		M1A1
	180 ÷ 3 = 60		M0A0

Q2. (2021)

Question	Answer	Mark	Comments
18(a)	Correct explanation	B1	eg 35 is more than 17 + 13
	Additional Guidance		
	It is more than 30		B1
	AB cannot be more than AC + BC		B1
	AC + BC only add up to 30		B1
	The triangle inequality		B1
	17 + 13 is only 30		B1
	17 + 13 is 30		B0
	It would be too long		B0

Q3. (2021)

Question	Answer	Mark	Comments
18(b)	Correct explanation	B1	eg (it should be) $\frac{31}{\sin x}$
	Additional Guidance		
	x and 31 should be swapped		B1
	She has used 31 as an angle		B1
	She has used x as a length		B1
	It should be $\frac{\sin x}{31} \left(= \frac{\sin 72}{54} \right)$		B1

Q4. (2023)

Q	Answer	Mark	Comments
24	Alternative method 1 – using the equations of the lines		
	$\frac{22-y}{8-0} = 2$ or $22 = 2 \times 8 + c$ or $(c =) 22 - 2 \times 8$ or $c = 6$ or P is at $(0, 6)$ or $(PR \Rightarrow) y = 2x + 6$ or y -coordinate of P is 6 or y -coordinate of Q is 6	M1	oe equation using any letter y is the y -coordinate of P ignore missing brackets may be seen on diagram may be seen on diagram
	$2m = -1$ or $(m =) -\frac{1}{2}$	M1	oe gradient of RQ
	$22 = \text{their } -\frac{1}{2} \times 8 + c$ or $22 = -4 + c$ or $c = 26$ or $(RQ \Rightarrow) y = -\frac{1}{2}x + 26$	M1dep	oe equation in c dep on previous mark oe equation of RQ
	their $(-\frac{1}{2}x + 26) = \text{their } 6$ or x -coordinate of Q is 40	M1dep	oe equation in x where x is the x -coordinate of Q dep on M3 $-\frac{1}{2} = \frac{22 - \text{their } 6}{8 - x}$ implies M4 if their 6 is correct or from correct working
	(40, 6)	A1	
24 cont	Alternative method 2 – using similar triangles		
	Drops a perpendicular from R to point S on PQ and uses $RS = 2PS = 16$ to work out that P is at $(0, 6)$	M1	any or no letter eg $22 - 2 \times 8$
	$2m = -1$ or $(m =) -\frac{1}{2}$ or $\frac{RS}{SQ} = \frac{1}{2}$	M1	oe gradient of RQ
	16×2 or 32	M1dep	length of SQ may be seen on diagram dep on previous mark
	8 + their 32 or x -coordinate of Q is 40	M1dep	
	(40, 6)	A1	
Additional Guidance			
Note that 40 (for the x -coordinate of Q) implies M3 (on alt 2) and implies M4 if 6 is also seen (on alt 1)			