

Q1. (2020)

(A)

Q	Answer	Mark	Comments
26(a)	$21 \div 7 \times 2 (=6)$ or $21 \div 3 = 7$ and $6 \div 3 = 2$ or $21 \div 7 = 3$ and $6 \div 2 = 3$ or $7 \times 3 = 21$ and $2 \times 3 = 6$	B1	oe eg $6 \div 2 = 3$ and $7 \times 3 = 21$
	Additional Guidance		
	$3 \times 2 (=6)$		B0
	$7 : 2 (=) 21 : 6$ with no other working		B0
	$7 : 2 (=) 21 : 6$ with multiplication by 3 shown by arrow(s)		B1
	$7 : 2 (=) 14 : 4 (=) 21 : 6$		B1
	Do not condone incorrect representation of a division eg $7 \div 21 = 3$		B0
	Do not condone incorrect mathematical representation eg $21 \div 7 = 3 \times 2 = 6$		B0
	$21 \div 6 = 3.5$, $3.5 \times 2 = 7$		B1
	$21 \times 2 = 42$, $42 \div 7 = 6$		B1

(B)

Q	Answer	Mark	Comments
26(b)	Alternative method 1		
	$2 \times \pi \times 21$ or $\pi \times 42$ or 42π or $[131.88, 132]$	M1	oe condone $[3.14, 3.142]$ for π
	$2 \times \pi \times 6 \div 4$ or $\pi \times 12 \div 4$ or 3π or $[9.4, 9.43]$	M1	oe arc length of quarter circle condone $[3.14, 3.142]$ for π
	$2 \times \pi \times 6 \div 4 + 2 \times 6$ or $3\pi + 12$ or $[21.4, 21.43]$	M1dep	oe dep on 2nd M1 this does not imply M1M1M1
	$45\pi + 12$	A1	
	Alternative method 2		
	$2 \times \pi \times 21$ or $\pi \times 42$ or 42π or $[131.88, 132]$	M1	oe condone $[3.14, 3.142]$ for π
	$2 \times \pi \times 21$ and $2 \times \pi \times 6 \div 4$ or 42π and 3π or $2 \times \pi \times 21 + 2 \times 6$ or $42\pi + 12$ or $[143.88, 144]$	M1dep	oe eg 42π and $[9.4, 9.43]$ or $[131.88, 132]$ and 3π
	$2 \times \pi \times 21 + 2 \times \pi \times 6 \div 4$ or $42\pi + 3\pi$ or 45π or $[141, 141.43]$ or $[153, 153.43]$	M1dep	oe eg $42\pi + [9.4, 9.43]$ or $[131.88, 132] + 3\pi$
	$45\pi + 12$	A1	

26(b) cont	Additional Guidance		
	Condone $3(15\pi + 4)$		M1M1M1A1
	Condone, for example, $\pi 42$ for up to M1M1M1		
	$21\pi + 3\pi + 12$		MOM1M1A0 on alt 1
	$441\pi + 3\pi + 12$		MOM1M1A0 on alt 1
	$42\pi + 36\pi + 12$		M1M1M0A0 on alt 2
	$441\pi + 36\pi + 12$		MOMOM0A0
	Using πr^2 instead of $2\pi r$ throughout		MOMOM0A0
	$45\pi + 12$ in working with incorrect further work, eg $45\pi + 12 = 57\pi$		M1M1M1A0

Q2. (2020)

(A)

Q	Answer	Mark	Comments
26(a)	$21 \div 7 \times 2 (= 6)$ or $21 \div 3 = 7$ and $6 \div 3 = 2$ or $21 \div 7 = 3$ and $6 \div 2 = 3$ or $7 \times 3 = 21$ and $2 \times 3 = 6$	B1	oe eg $6 \div 2 = 3$ and $7 \times 3 = 21$
	Additional Guidance		
	$3 \times 2 (= 6)$		B0
	$7 : 2 (=) 21 : 6$ with no other working		B0
	$7 : 2 (=) 21 : 6$ with multiplication by 3 shown by arrow(s)		B1
	$7 : 2 (=) 14 : 4 (=) 21 : 6$		B1
	Do not condone incorrect representation of a division eg $7 \div 21 = 3$		B0
	Do not condone incorrect mathematical representation eg $21 \div 7 = 3 \times 2 = 6$		B0
	$21 \div 6 = 3.5$, $3.5 \times 2 = 7$		B1
	$21 \times 2 = 42$, $42 \div 7 = 6$		B1

(B)

Q	Answer	Mark	Comments
26(b)	Alternative method 1		
	$2 \times \pi \times 21$ or $\pi \times 42$ or 42π or [131.88, 132]	M1	oe condone [3.14, 3.142] for π
	$2 \times \pi \times 6 \div 4$ or $\pi \times 12 \div 4$ or 3π or [9.4, 9.43]	M1	oe arc length of quarter circle condone [3.14, 3.142] for π
	$2 \times \pi \times 6 \div 4 + 2 \times 6$ or $3\pi + 12$ or [21.4, 21.43]	M1dep	oe dep on 2nd M1 this does not imply M1M1M1
	$45\pi + 12$	A1	
	Alternative method 2		
	$2 \times \pi \times 21$ or $\pi \times 42$ or 42π or [131.88, 132]	M1	oe condone [3.14, 3.142] for π
	$2 \times \pi \times 21$ and $2 \times \pi \times 6 \div 4$ or 42π and 3π or $2 \times \pi \times 21 + 2 \times 6$ or $42\pi + 12$ or [143.88, 144]	M1dep	oe eg 42π and [9.4, 9.43] or [131.88, 132] and 3π
	$2 \times \pi \times 21 + 2 \times \pi \times 6 \div 4$ or $42\pi + 3\pi$ or 45π or [141, 141.43] or [153, 153.43]	M1dep	oe eg $42\pi + [9.4, 9.43]$ or [131.88, 132] + 3π
	$45\pi + 12$	A1	

26(b) cont	Additional Guidance		
	Condone $3(15\pi + 4)$		M1M1M1A1
	Condone, for example, $\pi 42$ for up to M1M1M1		
	$21\pi + 3\pi + 12$		M0M1M1A0 on alt 1
	$441\pi + 3\pi + 12$		M0M1M1A0 on alt 1
	$42\pi + 36\pi + 12$		M1M1M0A0 on alt 2
	$441\pi + 36\pi + 12$		M0M0M0A0
	Using πr^2 instead of $2\pi r$ throughout		M0M0M0A0
	$45\pi + 12$ in working with incorrect further work, eg $45\pi + 12 = 57\pi$		M1M1M1A0