

Q22a. (2020)

Q	Answer	Mark	Comments
22(a)	$y = kx^3$ or $17 = 4^3k$	M1	oe
	$k = 17 \div 4^3$ or $k = 17 \div 64$ or $k = \frac{17}{64}$ or $\frac{17}{64}x^3$	M1dep	oe in the form $k =$
	$y = \frac{17}{64}x^3$ or $y = 0.265625x^3$	A1	oe equation eg $64y = 17x^3$ SC2 $y = \frac{17}{4^3}x^3$ or $y = \frac{17}{64} \times 4^3$
	Additional Guidance		
	Allow the proportion sign instead of = for M1 only		

Q2. (2021)

Question	Answer	Mark	Comments
24(a)	Alternative method 1: eliminates d		
	$4c + d = 7$ and $10c + d = 22$	M1	oe equations
	$(10 - 4)c = 22 - 7$ or $6c = 15$ or $c = 2.5$	M1dep	oe correct equation in c eg $10c + 7 - 4c = 22$
	$c = 2.5$ and $d = -3$	A1	oe fraction or mixed number for c
	Alternative method 2: eliminates c		
	$4c + d = 7$ and $10c + d = 22$	M1	
	$(10 - 4)d = 70 - 88$ or $6d = -18$ or $d = -3$	M1dep	oe correct equation in d eg $4\left(\frac{22 - d}{10}\right) + d = 7$
	$c = 2.5$ and $d = -3$	A1	oe fraction or mixed number for c
	Alternative method 3: works out the difference or the equation of the function through the points		
	(difference $\Rightarrow \frac{22 - 7}{10 - 4}$ or 2.5	M1	(gradient $\Rightarrow \frac{22 - 7}{10 - 4}$ or ($m \Rightarrow$) 2.5
	$c = 2.5$	M1dep	oe fraction or mixed number
	$c = 2.5$ and $d = -3$	A1	oe fraction or mixed number for c

Q3. (2021)

Question	Answer	Mark	Comments
24(b)	$\frac{2x-1}{2}$	B1	

Q4. (2023)

Q	Answer	Mark	Comments
13(b)	Alternative method 1 – using k		
	$\frac{f(6)}{f(2)} = \frac{36k}{4k} = 9$ or $f(3) = 9k$	M1	condone eg $k=36$
	$\frac{f(6)}{f(2)} = 9$ and $f(3) = 9k$ and No	A1	condone $k=9$
	Alternative method 2 – substituting a value for k		
	Identifies a value of k other than 1 and correctly evaluates $\frac{f(6)}{f(2)}$ or $f(3)$	M1	eg $k = 2$ and $\frac{f(6)}{f(2)} = 9$ or $f(3) = 18$
	Identifies a value of k other than 1 and correctly evaluates $\frac{f(6)}{f(2)}$ and $f(3)$ and No	A1	eg $k = 2$ and $\frac{f(6)}{f(2)} = 9$ and $f(3) = 18$ and No
	Additional Guidance		
	9k from $\frac{f(6)}{f(2)}$ is M0, but M1 can be awarded if accompanied by $f(3) = 9k$		
	Do not allow 9 from $\frac{36}{4}$ (unless $\frac{36}{4}$ is from $\frac{36k}{4k}$)		
	Do not allow 9 from $\frac{36k^2}{4k^2}$		
	Students may correctly state that $\frac{f(6)}{f(2)}$ and $f(3)$ are (only) equal when $k = 1$ This may replace 'No' in their answer, but does not score without 9k and 9		
	Do not allow unprocessed values, eg 6^2 , 2^2 or 3^2		