

Q1. (2018)

3	$5a - 4a^2$	B1	
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Q2. (2019)

16	Correct factorisation of numerator $2(2x - 4x^2)$ or $4(x - 2x^2)$ or $x(4 - 8x)$ or $2x(2 - 4x)$ or $4x(1 - 2x)$ or correct factorisation of denominator $2(6x - 3)$ or $3(4x - 2)$ or $6(2x - 1)$ or correct cancelling by 2 throughout $\frac{2x - 4x^2}{6x - 3}$	M1	oe with negative coefficients
	Correct fraction with numerator $4x(1 - 2x)$ or $-4x(2x - 1)$ and denominator $6(2x - 1)$ or $-6(1 - 2x)$ or $-\frac{4x}{6}$ or $-\frac{4x}{6}$ or $\frac{4x}{-6}$ or $\frac{2x(2 - 4x)}{-3(2 - 4x)}$ or $\frac{2x(2 - 4x)}{3(4x - 2)}$	M1dep	oe with cancelling of 2 throughout eg $\frac{2x(1 - 2x)}{3(2x - 1)}$ or $\frac{2x(1 - 2x)}{-3(1 - 2x)}$
	$\frac{2x}{3}$ or $-\frac{2}{3}x$	A1	allow $-\frac{2x}{3}$ or $\frac{2x}{-3}$
	Additional Guidance		
Allow multiplication signs up to M1M1			
Allow -0.6 for $-\frac{2}{3}$			
Do not allow $-0.66\dots$ for $-\frac{2}{3}$			
For the first M1 only, allow any correct factorisation seen within multiple attempts			

Q3. (2019)

23	Alternative method 1		
	$(8^4 =) (2^3)^4$ or 2^{12} or $(32^5 =) (2^5)^5$ or 2^2	M1	
	2^{12} and 2^2	M1dep	or calculation in the form $2^a \div 2^b$ where $a - b = 10$ $2^c \times 2^d$ where $c + d = 10$
	2^{10}	A1	Accept $m = 10$
	Alternative method 2		
	$(8^4 =) 4096$ or $(32^5 =) 4$	M1	
	1024	M1dep	
	2^{10}	A1	Accept $m = 10$
	Additional Guidance		
	Note that 1024 from 32×32 scores 2 marks if 1024 is their final numerical answer However, if they then try to find $\sqrt[5]{1024}$ they are clearly processing $(32^5 =)$, so this would only score 0 marks without further work If a numerical method and an index method are both attempted and an incorrect answer is given, award up to M1M1 from the better method		

Q4. (2020)

Q	Answer	Mark	Comments
13(a)	$(x+8)(x-5)$ or $(k=) 3$ or $(x+5)(x-8)$ or $(k=) -3$ or $(x+10)(x-4)$ or $(k=) 6$ or $(x+4)(x-10)$ or $(k=) -6$ or $(x+20)(x-2)$ or $(k=) 18$ or $(x+2)(x-20)$ or $(k=) -18$ or $(x+40)(x-1)$ or $(k=) 39$ or $(x+1)(x-40)$ or $(k=) -39$ or $s=8$ and $t=5$ or $8-5$	M1	oe correct factorisation
	3	A1	condone embedded answer $x^2 + 3x - 40$
	Additional Guidance		
	$x^2 + sx - tx - st$ with no further working		M0A0
	Ignore incorrect factorisations in working		

Q5. (2021)

Question	Answer	Mark	Comments
1	a^{15}	B1	

Q6. (2021)

Question	Answer	Mark	Comments
4	$y = \frac{k}{x}$	B1	

Q7. (2022)

Q	Answer	Mark	Comment
24(a)	$\left(\frac{6}{a}\right) \frac{24}{4a}$ or converts both fractions to a common denominator or correct unsimplified fraction eg $\frac{26}{8a}$ or $\frac{13a}{4a^2}$ or $\frac{3.25}{a}$	M1	oe eg $\frac{48}{8a}$ and $\frac{22}{8a}$ or $\frac{24a}{4a^2}$ and $\frac{11a}{4a^2}$
	$\frac{13}{4a}$	A1	
	Additional Guidance		
	Do not ignore further work eg $\frac{13}{4a}$ followed by answer $\frac{3.25}{a}$		M1A0
	Allow a division sign rather than a fraction line for M1 only eg $26 \div 8a$ eg $13 \div 4a$		M1A0 M1A0

Q8. (2022)

Q	Answer	Mark	Comment
24(b)	$y(y-3)$	M1	
	$(y+7)(y+3)$	M1	
	$(y+3)(y-3)$	M1	
	$y(y+7)$ or y^2+7y	A1	SC1 $y^4 - 3y^3 + 10y^3 - 30y^2 + 21y^2 - 63y$ or $y^4 + 7y^3 - 9y^2 - 63y$
	Additional Guidance		
	$y(y+7)$ or y^2+7y with no other working		M1M1M1A1
	Answer $\frac{y(y+7)}{1}$ or $\frac{y^2+7y}{1}$		M1M1M1A0
	Ignore the consistent use of a different variable within a factorisation		
	Award SC1 only if there are no correct factorisations eg correct factorisation to $(y+7)(y+3)$ and correct expansion to $y^4 - 3y^3 + 10y^3 - 30y^2 + 21y^2 - 63y$		M1 only

Q9. (2023)

Q	Answer	Mark	Comments
8	$13x + 22$	B2	B1 $15x + 20$ or $-2x + 2$ or $13x + a$ or $bx + 22$, where a and b can be any numbers
	Additional Guidance		
	Do not ignore further working for B2 eg $13x + 22 = 35x$ eg $13x + 22, x = \frac{22}{13}$		B1 B1