

Q1. (2017)

5	Any correct product of 36 using a prime factor	M1	2 and 18 2 and 2 and 9 3 and 12 3 and 3 and 4 2 and 3 and 6 May be on a factor tree or repeated division
	2 and 2 and 3 and 3	A1	oe May be on a factor tree or repeated division
	$2^2 \times 3^2$ or $3^2 \times 2^2$	A1	
	Additional Guidance		
	Allow any number of 1s included as factors up to M1A1 only		
	$1 \times 2^2 \times 3^2$		M1A1A0
	$2^2, 3^2$		M1A1A1
	$2 + 2 + 3 + 3$		M1A1A0
	$2^2 + 3^2$		M1A1A0
	$2^2 3^2$ or $2^2, 3^2$		M1A1A0
	$2 \times 2 \times 3 \times 3$ and $2^2 \times 3^2$ on answer line but $2 \times 2 \times 3 \times 3 = 2^2 \times 3^2$ on answer line		M1A1A0 M1A1A1
	$2^2 \times 3^2 = 6^2$		M1A1A0
	6×6 with no prime factorisation		M0A0A0

Q2. (2020)

Q	Answer	Mark	Comments
14(a)	$(18 =) 2 \times 3^2$ or $(18 =) 2 \times 3 \times 3$	M1	oe eg $(18 =) 2^1 \times 3^1 \times 3^1$ allow 2, 3 and 3 in a factor tree
	$2^{11} \times 3^3 \times 5^6$	A1	any order SC1 864 000 000
	Additional Guidance		
	M1 may be implied eg1 $2 \times 3^2 \times 2^{10} \times 3 \times 5^6$ eg2 $2^{11} \times 3 \times 3 \times 3 \times 5^6$		M1 M1
	Condone a multiplier of 1 for M1 only if not recovered eg1 $1 \times 2 \times 3 \times 3$ eg2 $1 \times 2^{11} \times 3^3 \times 5^6$		M1 M1A0
	Allow the prime factorisation of 18 within the prime factorisation of a larger number eg $54 \times 2^{10} \times 5^6$ and $54 = 2 \times 3^3$ oe		M1

Q3. (2021)

Question	Answer	Mark	Comments
5	200 written as a product of factors where at least one factor is prime	M1	eg 2 and 100 or 2×10^2 or $200 \div 5 = 40$ may be on a factor tree or repeated division allow one strand to be incorrect if a previous value completes the product eg 10×20 followed by $5 \times 2 \times 5 \times 6$ implies $5 \times 2 \times 20$ for M1
	2 and 2 and 2 and 5 and 5	A1	may be on a factor tree or repeated division
	$2^3 \times 5^2$ or $5^2 \times 2^3$	A1	
	Additional Guidance		
	Allow any number of 1s included as factors up to M1A1 only		
	M1 may be awarded for correct work with no or incorrect answer, even if this is seen among multiple attempts		
	$1 \times 2^3 \times 5^2$		M1A1A0
	$2^3 \cdot 5^2$ or $2^3 \cdot 5^2$ or $2^3 5^2$ or $2^3, 5^2$		M1A1A1
	$2 + 2 + 2 + 5 + 5$		M1A1A0
	$2^3 + 5^2$		M1A1A0
5	$2 \times 2 \times 2 \times 5 \times 5$ and $2^3 \times 5^2$ on answer line but $2 \times 2 \times 2 \times 5 \times 5 = 2^3 \times 5^2$ on answer line		M1A1A0 M1M1A1
	$2^3 \times 5^2 = 10^5$		M1A1A0
	$2^3 \times 5^2 = 200$		M1A1A1
	8×25 with no prime factorisation		M0A0A0

Q4. (2023)

Q	Answer	Mark	Comments
5	All conditions met: <ul style="list-style-type: none"> first number is prime second number is prime correctly evaluated even answer answer in range 	B3	if their product is incorrectly evaluated or missing, then 'even answer' and 'answer in range' refer to the correct product for their multiplication B2 4 conditions met B1 3 conditions met
	Additional Guidance		
	$2 \times 29 = 58$ (or $29 \times 2 = 58$) is the only fully correct solution		B3
	Allow 50 to 60 inclusive for 'answer in range'		
	Award the best mark from boxes or in working for up to B2		
5	The two prime numbers do not have to be different		