

Indices Past Paper Questions (MS)



Q1.

PAPER: 1MA0_2F				
Question	Working	Answer	Mark	Notes
(a)		92.3521	1	B1 cao
(b)		p^6	1	B1 cao
(c)		t^5	1	B1 cao
(d)		6	1	B1 cao

Q2.

Question	Working	Answer	Mark	Notes
(a)		3^7	M1 A1	for a first step using a rule of indices, e.g. $3^5 \times 3^4 = 3^{5+4} (= 3^9)$ or $3^5 \div 3^2 = 3^{5-2}$ $(= 3^3)$ or $3^4 \div 3^2 = 3^{4-2} (= 3^2)$ cao
(b)		1	B1	cao
(c)		$\frac{1}{9}$	B1	for $\frac{1}{9}$ (or 0.11...)

Q3.

Question	Answer	Mark	Mark scheme	Additional guidance
	9	M1 A1	for a correct first step, using the laws of indices to simplify eg 3^2 or $3^{7+(-2)}$ or 3^{7-3} or 3^{-2-3} OR for using exact values, eg. $2187 \times \frac{1}{9} (= 243)$ or $2187 \div 27 (= 81)$ or $\frac{1}{27 \times 9} (= \frac{1}{243})$	
			cao	

Q4.

Question	Answer	Mark	Mark scheme	Additional guidance
	49	B1	cao	



Q5.

Question	Answer	Mark	Mark scheme	Additional guidance
	2^6	M1	for the start of a method of simplification, eg 2^{-5+8} ($= 2^3$) or $2^{-5 \times 2}$ ($= 2^{-10}$) or $2^{8 \times 2}$ ($= 2^{16}$)	
		A1	cao SC B1 for answer of 64 or 8^2 or 4^3 if M0 scored.	

Q6.

Question	Working	Answer	Mark	Notes
(a)		6	B1	cao
(b)		5	B1	cao
(c)		Shown	M1	for writing 100^a or 1000^b as a power of 10 ($= 10^{2a}$ or 10^{3b}) or 10^{2a+3b} or $100 = 10^2$ and $1000 = 10^3$
			C1	for complete chain of reasoning leading to conclusion

Q7.

Question	Answer	Mark	Mark scheme	Additional guidance
	243	B1	cao	

Q8.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	n^3	B1	cao	
(b)	cd^3	M1	for partial simplification, eg c or d^3	May be seen as simplification in original fraction
		A1	for cd^3	Accept c^1d^3