INDICES

Pearson Edexcel - Tuesday 6 November 2018 - Paper 1 (Non-Calculator) Foundation Tier

1.

20	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 $\frac{1}{27\times9} (= \frac{1}{243})$ cao	

Pearson Edexcel - Thursday 7 June 2018 - Paper 2 (Calculator) Foundation Tier

2.

20	(a)	m^7	B1	cao	
	(b)	$125n^3p^9$	B2	cao	Allow multiplication signs
			(B1	for 2 of 3 terms correct in a single product)	$125n^3p^x$ or $125n^xp^9$ where $x \neq 0$ or an^3p^9 where a is a number
	(c)	$8q^6r^3$	B2	cao	Allow multiplication signs
			(B1	for 2 of 3 terms correct in a single product)	$8q^6r^x$ or $8q^xr^3$ where $x \neq 0$ or aq^6r^3 where a is a number

Pearson Edexcel - Monday 6 November 2017 - Paper 2 (Calculator) Foundation Tier

3.

21	(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

OCR Wednesday 8 November 2017– Morning (Calculator) Foundation Tier

4.

10	**(a)**		7^4	**1**		Condone 7^4= 2401 on answer line
	(b)		× 4 2 × 2 × 2 [=] 2^6	**2**	**B1** for one line correct	
	(c)		1.02×10^3 , 3×10^2 , $8.1 \times 10^{[1]}$, 9.83×10^{-2}	**1**	Accept 1020, 300, 81, [0].0983	Condone error in writing 0.0983 if order correct.

OCR Tuesday 13 June 2017 – Morning (Calculator) Foundation Tier

5.

3	**(a)**		7	**1**		Not 5^7

AQA Tuesday 21 May 2019 – Morning (Non-Calculator) Foundation Tier

6.

23	$(3^{12} =) 531441$ or $(3^5 =) 243$ or $(3^{12} \div 3^5 =) 3^7$ or $(3^{12} \div 3^5 =) 2187$ or $(3^2 \times 3 =) 3^3$ or $(3^2 \times 3 =) 27$ or $3^{12} \div 3^5 \div 3^2 \div 3$ or $\frac{3^{12}}{3^5} \times \frac{1}{3^2 \times 3}$	M1	
	$3^7 \div 3^3$ or $3^7 \div 27$ or $3^{(12-5-2-1)}$ or $\frac{3^{12}}{3^8}$ or 3^4 or $2187 \div 27$	M1dep	oe in the form $3^n \div 3^{(n-4)}$
	81	A1	
	Additional Guidance		
	3^4 and 81 on the answer line in either order		M1M1A1
	81 in working and 3^4 on the answer line		M1M1A0

AQA Thursday 24 May 2018 – Morning (Non-Calculator) Foundation Tier

7.

17	positive and odd	B1	
	Additional Guidance		

AQA Tuesday 13 June 2017 Morning– Morning (Calculator) Foundation Tier

8.

15	**Alternative method 1 of 4**		
	Identifies any 3-digit cube number	M1	125 or 216 or 343 or 512 or 729
	125 and 216 and 343 and 512 and 729	M1dep	
	125 and 216 and 343 and 512 and 729 and 64 and 1000	A1	
	Alternative method 2 of 4		
	Identifies any 3-digit cube number	M1	125 or 216 or 343 or 512 or 729
	$5^3 = 125$ and $9^3 = 729$ and 5, 6, 7, 8, 9 or 9 – 4 = 5	M1dep	
	$5^3 = 125$ and $9^3 = 729$ and 5, 6, 7, 8, 9 or 9 – 4 = 5 and $(4^3 =)$ 64 and $(10^3 =)$ 1000	A1	
	Alternative method 3 of 4		
	$\sqrt[3]{100} = 4.6...$	M1	
	$\sqrt[3]{999} = 9.9...$ or $\sqrt[3]{1000} = 10$	M1	
	$\sqrt[3]{100} = 4.6...$ and $\sqrt[3]{999} = 9.9...$ or $\sqrt[3]{1000} = 10$ and 5, 6, 7, 8, 9 or 9 – 4 = 5	A1	

15 cont	**Alternative method 4 of 4**		
	$5^3 = 125$	M1	
	$10^3 = 1000$ or $\sqrt[3]{1000} = 10$	M1	
	$4^3 = 64$ and $5^3 = 125$ and $10^3 = 1000$ or $\sqrt[3]{1000} = 10$ and 5, 6, 7, 8, 9 or 9 – 4 = 5	A1	

AQA Sample Paper 3– Morning (Calculator) Foundation Tier

9.

21	Ticks 'False' and states that x could be -4	B1	oe