Question	Answer	Mark	Comments
1(a)	10^5 or 25000	M1	oe correct value not in standard form eg 25×10^3
	2.5×10^4	A1	
	Additional Guidance		
	Condone $2.5 \cdot 10^4$		M1A1
	Condone different spacing or commas eg 25000 or 250,00		M1A0
1(b)	$c = 3$ and $d = -2$	B2	B1 $c = 3$ or $d = -2$ or $c = 10^3$ and/or $d = 10^{-2}$
	Additional Guidance		
	One or both of the values may be embedded for B1 only		

Question	Answer	Mark	Comments
2(a)	2×10^3 or 7×10^4 or 140 000 000	M1	oe correct value not in standard form eg 14×10^7
	1.4×10^8	A1	SC1 Correctly converts an ordinary number with at least four digits to standard form
	Additional Guidance		
	Condone extra zeros on 1.4 eg $1.40\,000\,000 \times 10^8$		M1A1
	1.4×10^8 from 1 400 000 000		M0A0
	2×10^3 is implied by $(2 \times 7) \times (10^3 \times 10^a)$ 7×10^4 is implied by $(2 \times 7) \times (10^b \times 10^4)$		M1
	1 400 000 000 converted to 1.4×10^9		SC1

Question	Answer	Mark	Comments
2(b)	180 or 0.3 or (1.8 ÷ 3 =) 0.6 or (10^2 ÷ 10^{-1} =) 10^3 or calculation which would have the outcome 600 or correct value not given as an ordinary number	M1	eg 1800 ÷ 3 eg 6×10^2
	600	A1	
	Additional Guidance		
	1800 ÷ 0.3 = 600 scores M1 only, as 600 comes from incorrect working		M1A0
	1800 ÷ 30 = 600 scores zero, as 600 comes from incorrect working		M0A0

Q	Answer	Mark	Comments
3	4×10^5	B2	B1 400 000 oe correct answer not in standard form eg 40×10^4 or 8×10^7 or 2×10^2 or $8 \times 10^5 \div 2$ or $4 \times 10^7 \div 100$ or any value seen and then correctly converted to standard form eg 4 000 000 and 4×10^6 40 000 and 4×10^4
	Additional Guidance		
	Ignore incorrect position of commas or spacing in long numbers		
	Condone 400 000 and 4×10^5 on the answer line, in either order Condone 40 000 and 4×10^4 on the answer line, in either order		B2 B1
	400 000 only on the answer line		B1
	Do not award both marks for the correct answer from incorrect working but B1 can be awarded for one or both numbers incorrectly converted to standard form and the result of their division given correctly in standard form eg $(8 \times 10^8) \div (2 \times 10^3) = 4 \times 10^5$ eg $(0.8 \times 10^7) \div (2 \times 10^3) = 4 \times 10^5$		B1 B0
	Condone a decimal point and any number of zeros after 4 eg 4.00000×10^5		B2
	8×10^7 is implied by $(8 \div 2) \times (10^7 \div 10^a)$ or condone $(8 \div 2) \times (10^7 \times 10^a)$		B1
	2×10^2 is implied by $(8 \div 2) \times (10^b \div 10^2)$ or condone $(8 \div 2) \times (10^b \times 10^2)$		B1

Q	Answer	Mark	Comments
4 (a)	0.0072	B2	B1 7.2×10^3 or 7.2×10^{-3} ignore extra 0s which don't affect the value
	Additional Guidance		
	0.0072 in working with 7.2×10^{-3} on the answer line		B1

Q	Answer	Mark	Comment
5	0.000 18	B1	

Q	Answer	Mark	Comments
6	6.4×10^{-14}	B1	oe standard form eg 6.40×10^{-14}