SMART EXAM RESOURCES
0580 EXTENDED MATH
TOPIC: NUMBERS
SUB-TOPIC: WRITING IN STANDARD FORM
SET-2-QP-MS

1 1 second = 10^6 microseconds.

Change 3×10^{13} microseconds into minutes. Give your answer in standard form.

Answer ..... min [2]

MARK SCHEME:

	$5(.00) \times 10^5$	2	**SC1** for 5×10^k or 500 000 on answer line

2 A hummingbird beats its wings 24 times per second.

(a) Calculate the number of times the hummingbird beats its wings in one hour.

Answer(a) ..... [1]

(b) Write your answer to **part (a)** in standard form.

Answer(b) ..... [1]

MARK SCHEME:

	(a) 86400	**1**	
	(b) 8.64×10^4	**1ft**	

3 Solve the equation $4x + 6 \times 10^3 = 8 \times 10^4$.

Give your answer in standard form.

Answer $x =$ ..... [3]

MARK SCHEME:

	1.85×10^4	**3**	**B2** 18500 oe seen or **M1** $4x = 74000$ or $x = 2 \times 10^4 - 1.5 \times 10^3$

4 **(a)** Write 16 460 000 in standard form.

Answer(a) ..... [1]

(b) Calculate $7.85 \div (2.366 \times 10^2)$, giving your answer in standard form.

Answer(b) [2]

MARK SCHEME:

(a)	1.646×10^7	**1**	
(b)	3.32×10^{-2}	**2**	**B1** for 0.0332 seen or 3.3×10^{-2} as answer or **B1** for 3.32×10^k

5 The price of a ticket for a football match is $124.

(a) Calculate the amount received when 76 500 tickets are sold.

Answer(a) $ ..... [1]

(b) Write your answer to **part (a)** in standard form.

Answer(b) $ ..... [1]

MARK SCHEME:

(a)	9486000	**1**	
(b)	9.486×10^6	**1ft**	

6 Calculate $(4.3 \times 10^8) + (2.5 \times 10^7)$.

Give your answer in standard form.

Answer ..... [2]

MARK SCHEME:

	4.55×10^8	**2**	**B1** for figs 455 seen

7 Calculate, giving your answers in standard form,

(a) $2 \times (5.5 \times 10^4)$,

Answer(a) ..... [2]

(b) $(5.5 \times 10^4) - (5 \times 10^4)$.

Answer(b) ..... [2]

MARK SCHEME:

(a)	1.1×10^5	**2**	**B1** for 110 000 oe e.g.11×10^4
(b)	5×10^3	**2**	**B1** for 5000 oe e.g. 0.5×10^4

8 $p = 4 \times 10^5$ $q = 5 \times 10^4$

Find, giving your answer in standard form,

(a) pq,

Answer(a) ..... [2]

(b) $\frac{q}{p}$.

Answer(b) ..... [2]

MARK SCHEME:

(a)	2×10^{10}	**2**	**B1** for 20×10^9 or 20 000 000 000
(b)	1.25×10^{-1}	**2**	**B1** for 0.125 oe

9 **(a)** Write 569000 correct to 2 significant figures.

Answer(a) ..... [1]

(b) Write 569 000 in standard form.

Answer(b) ..... [1]

MARK SCHEME:

	(a)	570 000	**1**	
	(b)	5.69×10^5	**1**	

10 **(a)** Use your calculator to find the value of $7.5^{-0.4} \div 57$.
Write down your full calculator display.

Answer(a) ..... [1]

(b) Write your answer to **part (a)** in standard form.

Answer(b) ..... [1]

MARK SCHEME:

	(a)	0.059161...	**1**	
	(b)	$5.9161... \times 10^{-2}$	**1FT**	ft *their* part (a)

11 Write 270 000 in standard form.

Answer ..... [1]

MARK SCHEME:

	2.7×10^5	**1**	