SMART EXAM RESOURCES

0580 EXTENDED MATH

TOPIC: NUMBERS

SUB-TOPIC: WRITING IN STANDARD FORM

SET-3-QP-MS

1 Write 53 400 000 in standard form.

Answer ..... [1]

MARK SCHEME:

	5.34×10^7	**1**	

2 Write 0.000 057 4 in standard form.

..... [1]

MARK SCHEME:

	5.74×10^{-5}	**1**	

3 **(a)** Write 0.0605 in standard form.

..... [1]

(b) Calculate $0.1 \times 5.1 \times 10^4$, giving your answer in standard form.

..... [1]

MARK SCHEME:

(a)	6.05×10^{-2}	**1**	
(b)	5.1×10^3	**1**	

4 Write 0.000 038 7 in standard form.

..... [1]

MARK SCHEME:

	3.87×10^{-5}	**1**	

5 Here are some numbers written in standard form.

3.4×10^{-1} 1.36×10^{6} 7.9×10^{0} 2.4×10^{5} 5.21×10^{-3} 4.3×10^{-2}

From these numbers, write down

(a) the largest number,

..... [1]

(b) the smallest number.

..... [1]

MARK SCHEME:

(a)	1.36×10^{6} oe	**1**	
(b)	5.21×10^{-3} oe	**1**	

6 **(a)** Write 4.82×10^{-3} as an ordinary number.

..... [1]

(b) Write 52 million in standard form.

..... [1]

MARK SCHEME:

(a)	[0].004 82 cao	**1**	
(b)	5.2×10^7	**1**	

7 **(a)** Write 0.047 883 correct to 2 significant figures.

..... [1]

(b) Write 0.005 27 in standard form.

..... [1]

MARK SCHEME:

(a)	0.048 cao	**1**	
(b)	5.27×10^{-3}	**1**	

8 The radius of the Earth at the equator is approximately 6.4×10^6 metres.
Calculate the circumference of the Earth at the equator. Give your answer in standard form, correct to 2 significant figures.

Answer .....m [3]

MARK SCHEME:

$4.\underline{0} \times 10^7$	3*	**M1** $2 \times \pi \times 6.4 \times 10^6$ **SC1** 2.0×10^7 4.0×10^k, 4.02×10^7, 4×10^7 score **M1A1A0**

9 The population of Europe is 580 000 000 people.
The land area of Europe is 5 900 000 square kilometres.

(a) Write 580 000 000 in standard form.

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

MARK SCHEME:

(a) 5.8×10^8	1	

10 The mass of the Earth is $\frac{1}{95}$ of the mass of the planet Saturn.

The mass of the Earth is 5.97×10^{24} kilograms.
Calculate the mass of the planet Saturn, giving your answer in standard form, correct to 2 significant figures.

Answer kg [3]

MARK SCHEME:

	5.7×10^{26}	**3***	**M1** x 95 **A1** 5.7 **B1** 10^{26}

11 A light on a computer comes on for 26 700 microseconds.

One microsecond is 10^{-6} seconds.

Work out the length of time, in seconds, that the light is on

(a) in standard form,

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

MARK SCHEME:

(a) 2.67×10^{-2}	1	cao – must be correct notation