

**SMART EXAM RESOURCES**  
**0580 EXTENDED MATH**  
**TOPIC: NUMBERS**  
**SUB-TOPIC: SIGNIFICANT FIGURES**  
**SET-1-QP-MS**

**1** In 1950, the population of Switzerland was 4 714 900.  
 In 2000, the population was 7 087 000.

(a) Work out the percentage increase in the population from 1950 to 2000.

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

(b) (i) Write the 1950 population correct to 3 significant figures.

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

(ii) Write the 2000 population in standard form.

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

**MARK SCHEME:**

<b>(a)</b>	50.3	2	M1 for $\frac{(7087000 - 4714900)}{4714900}$ o.e. must be recognisable complete correct method	
<b>(b) (i)</b>	4710000 or $4.71 \times 10^6$	1		
<b>(ii)</b>	$7.087 \times 10^6$	1	accept $7.09 \times 10^6$ , ignore superfluous zeros	
				4

2 The area of a small country is 78 133 square kilometres.

(a) Write this area correct to 1 significant figure.

Answer(a) ..... km<sup>2</sup> [1]

**MARK SCHEME:**

(a)	80000	1	$8 \times 10^4$
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**3** Write the number 1045.2781 correct to

(a) 2 decimal places,

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

(b) 2 significant figures.

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

**MARK SCHEME:**

(a) 1045.28 <b>cao</b>	1	
(b) <u>1000</u>	1	Allow $1.0 \times 10^3$

4 Write the number 2045.4893 correct to

(a) 2 decimal places,

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

(b) 2 significant figures.

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

**MARK SCHEME:**

<b>(a) 2045.49 cao</b>	<b>1</b>	
<b>(b) <u>2000</u></b>	<b>1</b>	<b>Allow <math>2.0 \times 10^3</math></b>

5 Calculate the value of  $\frac{1}{2}\sqrt{\frac{1}{2} + \frac{1}{2}\sqrt{\frac{1}{2}}}$

(a) writing down all the figures in your calculator answer,

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

(b) writing your answer correct to 4 significant figures.

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

**MARK SCHEME:**

(a) 0.461939(...)	1	
(b) 0.4619 or ft	1ft	

- 6 Use your calculator to find the value of  $2^{\sqrt{3}}$ .  
Give your answer correct to 4 significant figures.

*Answer* ..... [2]

**MARK SCHEME:**

3.322 cao	2	<b>B1</b> 3.3219(...) or 3.32(20) seen
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7 A lake has an area of 63 800 000 000 square metres.

Write this area in square kilometres, correct to 2 significant figures.

Answer ..... km<sup>2</sup> [2]

**MARK SCHEME:**

	64000 or $6.4 \times 10^4$	2	SC1 for 63800 or $6.38 \times 10^4$ or figs 64 or $6.4 \times 10^k$ in answer space.
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8 (a) Calculate  $\sqrt[3]{7^{1.5} + 22^{0.9}}$  and write down your full calculator display.

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

(b) Write your answer to **part (a)** correct to 4 significant figures.

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

**MARK SCHEME:**

<b>(a)</b>	3.26077...	<b>1</b>	seen
<b>(b)</b>	3.261	<b>1ft</b>	their (a) to 4 significant figures



9 Calculate  $(2.1 - 0.078)^{17}$ , giving your answer correct to 4 significant figures.

.....[2]

**MARK SCHEME:**

157 900 cao	2	<b>B1</b> for 158000 or 157860 or 157862 to 157863 If zero scored, <b>SC1</b> for <i>their</i> answer to more than 4 figs correctly rounded to 4 sf
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**10** Write 3.5897 correct to 4 significant figures.

..... [1]

**MARK SCHEME:**

	3.590 cao	<b>1</b>	
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**11** Write 71 496 correct to 2 significant figures.

..... [1]

**MARK SCHEME:**

	71000 cao	<b>1</b>	
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