

**SMART EXAM RESOURCES**  
**SUBJECT: CAMBRIDGE INTERNATIONAL MATH**  
**TOPIC: NUMBERS**  
**SUB-TOPIC: HCF/LCM**  
**SET-1-QP-MS**

1 Leaving your answer as the product of prime factors, find

(i) the highest common factor (HCF) of  $a$ ,  $b$  and  $c$ ,

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

(ii) the lowest common multiple (LCM) of  $a$ ,  $b$  and  $c$ .

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

**MARK SCHEME:**

(i)	$3^2 \times 5^2$	<b>1</b>	
(ii)	$2^2 \times 3^3 \times 5^3 \times 7$	<b>2</b>	<b>B1</b> for 3 of 4 factors or <b>B1</b> for 94 500

2 (b) the highest common factor (HCF) of  $a$  and  $b$ ,

..... [1]

(c) the lowest common multiple (LCM) of  $a$  and  $b$ .

..... [2]

**MARK SCHEME:**

(b)	$2^3 \times 3^2$	<b>1</b>	
(c)	$2^5 \times 3^4 \times 5^{[1]} \times 7^3$	<b>2</b>	<b>B1</b> for 3 of 4 factors correct

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$p$  and  $q$  are prime numbers.

- (i) Write down the highest common factor (HCF) of  $p$  and  $q$ .

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

- (ii) Write down an expression, in terms of  $p$  and  $q$ , for the lowest common multiple (LCM) of  $p$  and  $q$ .

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

**MARK SCHEME:**

$$\begin{array}{l|l} \text{(i)} & 1 \\ \text{(ii)} & pq \end{array}$$

$$\begin{array}{|c|} \hline \mathbf{1} \\ \hline \mathbf{1} \\ \hline \end{array}$$

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Written as the product of their prime factors,

$$7056 = 2^4 \times 3^2 \times 7^2 \quad \text{and} \quad 8232 = 2^3 \times 3 \times 7^3.$$

Giving your answers as the product of prime factors, find

(a) the highest common factor (HCF) of 7056 and 8232,

..... [1]

(b) the lowest common multiple (LCM) of 7056 and 8232,

..... [1]

**MARK SCHEME:**

(a)	$2^3 \times 3^{[1]} \times 7^2$ isw	<b>1</b>	
(b)	$2^4 \times 3^2 \times 7^3$ isw	<b>1</b>	