

SMART EXAM RESOURCES
CAMBRIDGE LOWER SECONDARY MATHS
STAGE 8
TOPIC: FACTORS AND MULTIPLES
SET-1

1

Eva says, 'The highest common factor of 36 and 60 is 6'

Show that she is **not** correct.

[1]

Mark Scheme:

A correct demonstration, e.g. • Lists factors of 36 and 60 to 12 • Common prime factors are $2 \times 2 \times 3 = 6$ • $36 \div 6 = 12$ and $60 \div 6$ is 10 10 and 12 have a common factor of 2	1	Accept 'The correct HCF is 12'
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- 2 Rajiv has two pieces of string measuring 240cm and 168cm in length.
He cuts both pieces of string into smaller pieces that are all equal in length.

Work out the greatest possible length for each smaller piece.

..... cm [3]

MARK SCHEME

24 (cm)	3	Award 2 marks for correct method to find HCF, e.g. 240 and 168 correctly written as a product of primes or equivalent or answer $2^3 \times 3$ $240 = 2^4 \times 3 \times 5$ $168 = 2^3 \times 3 \times 7$ or Award 1 mark for 240 or 168 correctly written as a product of primes.	Accept factor trees or repeated division leading to correct prime factors instead of product of primes.
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- 3 Hussein says that the lowest common multiple of 6 and 4 is the same as the highest common factor of 36 and 24

Is Hussein correct? Yes/No
Explain your answer.

Because

..... [2]

Mark Scheme:

Yes he is correct.

Finding the Lowest Common Multiple (LCM) of 4 and 6

Step 1: List the Multiples of Each Number

- Multiples of 4:
4, 8, 12, 16, 20, 24, 28, ...
- Multiples of 6:
6, 12, 18, 24, 30, 36, ...

Step 2: Identify the Common Multiples

- Common multiples of 4 and 6:
12, 24, 36, ...

Step 3: Choose the Smallest Common Multiple

- The smallest common multiple of 4 and 6 is 12.

Finding the Highest Common Factor (HCF) of 24 and 36

Step 1: Find the Factors of Each Number

- Factors of 24:
1, 2, 3, 4, 6, 8, 12, 24
- Factors of 36:
1, 2, 3, 4, 6, 9, 12, 18, 36

Step 2: Identify the Common Factors

- Common factors of 24 and 36:
1, 2, 3, 4, 6, 12

Step 3: Choose the Greatest Common Factor

- The largest common factor is 12.

Final Answer:

$$\text{HCF}(24, 36) = 12$$