Multiple choice questions - Factors, multiples, primes and HCF/LCM

Year: Year 10 · 10

Question 1 The prime factorisation of 60 is

- ◯ **A.** $2 \times 3 \times 10$
- ◯ **B.** $2^2 \times 3 \times 5$
- ◯ **C.** $2 \times 3 \times 5$
- ◯ **D.** $2^2 \times 15$

Question 2 The HCF of 18 and 30 is

- ◯ **A.** 3
- ◯ **B.** 6
- ◯ **C.** 9
- ◯ **D.** 90

Question 3 The LCM of 4 and 10 is

- ◯ **A.** 2
- ◯ **B.** 20
- ◯ **C.** 40
- ◯ **D.** 14

Question 4 Which number is prime?

- ◯ **A.** 51
- ◯ **B.** 57
- ◯ **C.** 59
- ◯ **D.** 63

Question 5 How many factors does 12 have?

- ◯ **A.** 4
- ◯ **B.** 5
- ◯ **C.** 6
- ◯ **D.** 12

Question 6 Which statement is true?

- ◯ **A.** 1 is prime
- ◯ **B.** 2 is prime and even
- ◯ **C.** All odd numbers are prime

- ◯ **D.** 9 is prime

Question 7 $2^3 \times 5^2 =$

- ◯ **A.** 50
- ◯ **B.** 100
- ◯ **C.** 200
- ◯ **D.** 1000

Question 8 The LCM of $2^2 \times 3$ and 2×3^2 is

- ◯ **A.** 2×3
- ◯ **B.** $2^2 \times 3^2$
- ◯ **C.** $2^3 \times 3^3$
- ◯ **D.** $2^2 \times 3$

Question 9 (Higher) 5 starters, 4 mains and 3 desserts. How many different three-course meals?

- ◯ **A.** 12
- ◯ **B.** 60
- ◯ **C.** 15
- ◯ **D.** 20

Question 10 Which is a common factor of 24 and 36?

- ◯ **A.** 8
- ◯ **B.** 9
- ◯ **C.** 12
- ◯ **D.** 18

Answer grid - Factors, multiples, primes and HCF/LCM

Year: Year 10

Question	Answer	Explanation
1	**B**	$60 = 2 \times 2 \times 3 \times 5$.
2	**B**	Common factors 1, 2, 3, 6; the highest is 6.
3	**B**	Multiples of 10: 10, 20. 20 is a multiple of 4.
4	**C**	$51 = 3 \times 17$, $57 = 3 \times 19$, $63 = 7 \times 9$; 59 is prime.
5	**C**	1, 2, 3, 4, 6, 12.
6	**B**	2 is the only even prime.
7	**C**	$8 \times 25 = 200$.
8	**B**	Take the larger power of each prime.
9	**B**	$5 \times 4 \times 3 = 60$.
10	**C**	12 divides both; 8 does not divide 36, 9 does not divide 24, 18 does not divide 24.