Prime Factors, HCF and LCM

GCSE Mathematics • **Foundation Tier** • Grades 3–5 • Non-calculator

Name: _____ Class: _____ Total: _____ / 54

Show all your working. Marks are given for correct method as well as the final answer.

1. Write down all the factors of 24. **[2 marks]**

Answer: _____

2. Write down the first five multiples of 7. **[1 mark]**

Answer: _____

3. Write down all the prime numbers between 20 and 30. **[2 marks]**

Answer: _____

4. Explain why 1 is not a prime number. **[1 mark]**

Answer: _____

5. Write 60 as a product of its prime factors, in index form. **[3 marks]**

Answer: _____

6. Write 84 as a product of its prime factors, in index form. **[3 marks]**

Answer: _____

7. Write 180 as a product of its prime factors, in index form. **[3 marks]**

Answer: _____

8. Write $2^3 \times 5^2$ as an ordinary number. **[2 marks]**

Answer: _____

9. Work out the HCF of 18 and 24. **[2 marks]**

Answer: _____

10. Work out the LCM of 6 and 8. **[2 marks]**

Answer: _____

11. Work out the HCF of 36 and 48. **[3 marks]**

Answer: _____

12. Work out the LCM of 12 and 18. **[3 marks]**

Answer: _____

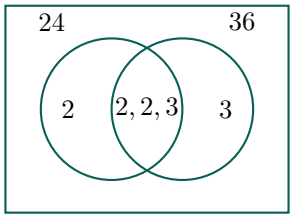
13. Work out the LCM of 15 and 20. **[3 marks]**

Answer: _____

14. Two numbers have HCF 6 and LCM 36. One of them is 12. Work out the other. **[3 marks]**

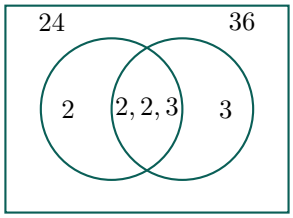
Answer: _____

15. The Venn diagram shows the prime factors of 24 and 36. Work out the HCF. **[2 marks]**



Answer: _____

16. Using the same Venn diagram, work out the LCM. **[2 marks]**



Answer: _____

17. Two lighthouses flash every 12 and 20 seconds. They flash together at midnight. Work out when they next flash together. **[3 marks]**

Answer: _____

18. 48 pencils and 36 rubbers are shared into identical packs with none left over. Work out the largest number of packs. **[3 marks]**

Answer: _____

19. $126 = 2 \times 3^2 \times 7$ and $168 = 2^3 \times 3 \times 7$.

(a) Work out the HCF of 126 and 168. **[2 marks]**

(b) Work out the LCM of 126 and 168. **[3 marks]**

Answer: _____

20. Buses to Hampstead leave every 9 minutes and buses to Camden every 15 minutes. Both leave at 08:00.

(a) Work out when they next leave together. **[3 marks]**

(b) Work out how many times they leave together between 08:00 and 11:00, not counting 08:00. **[3 marks]**

Answer: _____

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