JRA Tutors
Private tuition and small online Study Pods

Prime Factors, HCF and LCM

Grade 4 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (35 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 57 marks.

Warm-up

1 Write 72 as a product of its prime factors. **[2 marks]**

Answer _____

2 Write 36 as a product of its prime factors. **[2 marks]**

Answer _____

3 Write 60 as a product of its prime factors. **[2 marks]**

Answer _____

4 Write 24 as a product of its prime factors. **[2 marks]**

Answer _____

5 Write 45 as a product of its prime factors. **[2 marks]**

Answer _____

Core

6 Find the highest common factor (HCF) of 12 and 30. **[2 marks]**

Answer _____

7 Find the highest common factor (HCF) of 8 and 20. **[2 marks]**

Answer _____

8 Find the highest common factor (HCF) of 6 and 9. **[2 marks]**

Answer _____

9 Find the lowest common multiple (LCM) of 10 and 12. **[2 marks]**

Answer _____

10 Find the lowest common multiple (LCM) of 10 and 25. **[2 marks]**

Answer _____

Stretch

11 Write 72 and 108 as products of prime factors, then find their HCF. **[3 marks]**

Answer _____

12 Find the HCF and LCM of 72 and 108. **[3 marks]**

Answer _____

13 Find the HCF of 48, 180 and 60. **[3 marks]**

Answer _____

14 Find the LCM of 60, 84 and 36. **[3 marks]**

Answer _____

15 Find the HCF and LCM of 168 and 360. **[3 marks]**

Answer _____

Challenge

16 Bus A leaves a station every 8 minutes and bus B every 12 minutes. They both leave at 08:00. When do they next leave together? **[4 marks]**

Answer _____

17 One light flashes every 16 seconds and another every 24 seconds. They flash together at the start. After how many seconds do they next flash together? **[4 marks]**

Answer _____

18 What is the smallest number that is a multiple of 6, 10 and 15? **[4 marks]**

Answer _____

19 Find the smallest positive integer n such that 12n is a square number. **[5 marks]**

Answer _____

20 A floor measures 300 cm by 200 cm. It is covered with identical square tiles, as large as possible, with no cutting. Work out (a) the side of each tile and (b) how many tiles are needed. **[5 marks]**

Answer _____