HCF AND LCM USING PRIME FACTORS

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1.	Find the HCF of 12 and 18 using prime factors	6	2.	Find the LCM of 12 and 18 using prime factors	36
3.	Find the HCF of 15 and 25 using prime factors	5	4.	Find the LCM of 15 and 25 using prime factors	75
5.	Find the HCF of 24 and 36 using prime factors	12	6.	Find the LCM of 24 and 36 using prime factors	72
7.	Find the HCF of 28 and 42 using prime factors	14	8.	Find the LCM of 28 and 42 using prime factors	84
9.	Find the HCF of 45 and 60 using prime factors	15	10.	Find the LCM of 45 and 60 using prime factors	180
11.	Find the HCF of 54 and 72 using prime factors	18	12.	Find the LCM of 54 and 72 using prime factors	216
13.	Find the HCF of 75 and 90 using prime factors	15	14.	Find the LCM of 75 and 90 using prime factors	450
15.	Find the HCF of 84 and 126 using prime factors	42	16.	Find the LCM of 84 and 126 using prime factors	252
17.	Find the HCF of 96 and 144 using prime factors	48	18.	Find the LCM of 96 and 144 using prime factors	288
19.	Find the HCF of 120 and 180 using prime factors	60	20.	Find the LCM of 120 and 180 using prime factors	360

21. Find the HCF of 150 and 225 using prime factors | 75

22. Find the LCM of 150 and 225 using prime factors | 450

23. Find the HCF of 168 and 252 using prime factors | 84

24. Find the LCM of 168 and 252 using prime factors | 504

25. Find the HCF of 210 and 315 using prime factors | 105

26. Find the LCM of 210 and 315 using prime factors | 630

27. Find the HCF of 240 and 360 using prime factors | 120

28. Find the LCM of 240 and 360 using prime factors | 720

29. Find the HCF of 300 and 450 using prime factors | 150

30. Find the LCM of 300 and 450 using prime factors | 900

MASTER QUESTIONS

M1. Two bells ring at intervals of 12 and 18 minutes. After how many minutes will they ring together again? | 36 minutes

M2. A gardener wants to plant trees in rows with equal numbers. He has 48 apple trees and 60 pear trees. What is the greatest number of trees he can plant in each row? | 12 trees

M3. Three buses leave a station at intervals of 15, 20, and 30 minutes. When will they next leave together if they all left at 9:00 am? | 11:00 am

M4. Find the smallest number divisible by both 24 and 36 | 72

M5. A rectangular floor measures 6m by 8m. What is the largest square tile that can be used to cover it completely? | 2m x 2m

M6. Two numbers have HCF 12 and LCM 72. If one number is 24, find the other

36

M7. Three ropes are 24m, 36m, and 48m long. What is the greatest length that can measure all three exactly?

12m

M8. Find the smallest number that leaves remainder 3 when divided by 12, 18, and 24

75

M9. Three traffic lights change every 45, 60, and 90 seconds. How long until they next change simultaneously?

180 seconds

M10. A shop sells pens in packs of 15 and pencils in packs of 20. What is the smallest number of each pack needed to have equal numbers of pens and pencils?

4 packs of pens and 3 packs of pencils