

Class 4 Mathematics Word Problems (Original Set)

Topic: Factors, Multiples, HCF & LCM

Q1. Rahul has 12 blue marbles and 18 red marbles. He wants to pack them into identical bags such that each bag has the same number of marbles and no marbles are left over. What is the maximum number of bags he can make?

Q2. Two blinking lights are turned on at the same time. The first light blinks every 4 seconds, and the second light blinks every 6 seconds. After how many seconds will both lights blink together for the first time?

Q3. Tanya wants to plant 24 sunflower seeds in equal rows. List all the possible arrangements she can make (e.g., number of rows and plants per row).

Q4. An ice cream truck visits Mini's neighborhood every 5 days, and a toy cart visits every 3 days. If both came today, after how many days will they visit on the same day again?

Q5. Rohit has two pieces of ribbon measuring 15 cm and 25 cm. He wants to cut both ribbons into smaller pieces of equal length without wasting any ribbon. What is the longest possible length for each piece?

Q6. Simran is baking cupcakes. She can pack them completely into boxes of 6 or boxes of 8 without leaving any cupcakes out. What is the smallest number of cupcakes she could have baked?

Q7. A school teacher wants to divide 20 students from Class A and 30 students from Class B into mixed teams. Each team must have the same number of students from Class A and the same number of students from Class B. What is the largest number of identical teams she can form?

Q8. A bus to City Center leaves the terminal every 10 minutes, and a bus to the Airport leaves every 15 minutes. If both buses leave at 9:00 AM, at what time will they next leave the terminal together?

Q9. Kabir has 32 square tiles. He wants to arrange all of them to make a solid rectangle on the floor. How many different shapes of rectangles can he make?

Q10. A fruit seller has 45 apples. Can he arrange them into equal groups of 5? Can he arrange them into equal groups of 2? Explain why using the rules of factors.

ANSWER KEY & SOLVING HINTS

1. 6 bags (Find the HCF of 12 and 18. Factors of 12: 1,2,3,4,6,12. Factors of 18: 1,2,3,6,9,18. Highest common is 6.)
2. 12 seconds (Find the LCM of 4 and 6. Multiples of 4: 4,8,12,16. Multiples of 6: 6,12,18. Lowest common is 12.)
3. Possible pairs of (rows $\times$ plants): 1×24 , 2×12 , 3×8 , 4×6 , 6×4 , 8×3 , 12×2 , 24×1 .
4. 15 days (Find the LCM of 5 and 3. Since both are prime, $5 \times 3 = 15$.)
5. 5 cm (Find the HCF of 15 and 25. The largest number that divides both is 5.)
6. 24 cupcakes (Find the LCM of 6 and 8. Multiples of 6: 6,12,18,24. Multiples of 8: 8,16,24. Lowest common is 24.)
7. 10 teams (Find the HCF of 20 and 30. The largest number that divides both perfectly is 10.)
8. 9:30 AM (Find the LCM of 10 and 15, which is 30 minutes. $9:00 \text{ AM} + 30 \text{ minutes} = 9:30 \text{ AM}$.)
9. 3 different rectangular shapes (Find the factor pairs of 32: 1×32 , 2×16 , and 4×8).
10. Yes for groups of 5 because 5 is a factor of 45 ($45 \div 5 = 9$). No for groups of 2 because 45 is an odd number and 2 is not a factor of 45 (leaves a remainder of 1).