

Chapter 5 Class 6 Ganita Prakash - Case Based Question Worksheet 2 by *teachoo*

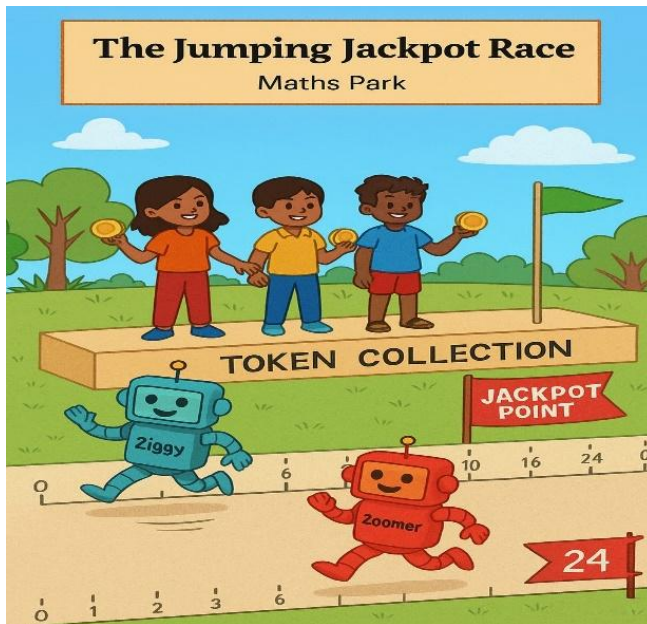
Chapter: [Chapter 5 Class 6 - Prime Time \(Ganita Prakash\)](#)

Name: _____

School: _____

Roll Number: _____

Case 1: The Jumping Jackpot Race



At the maths Park, there is a famous game called the Jumping Jackpot Race.

Two Robots - Ziggy and Zoomer are placed on a number line at 0.

- Ziggy jumps 6 times at a time.
- Zoomer jumps 8 times at a time.

They both keep jumping forward. The point where both land together for the first time is called the Jackpot Point.

In another lane, 3 players - Asha, Ritu and Veer are collecting jackpot tokens.

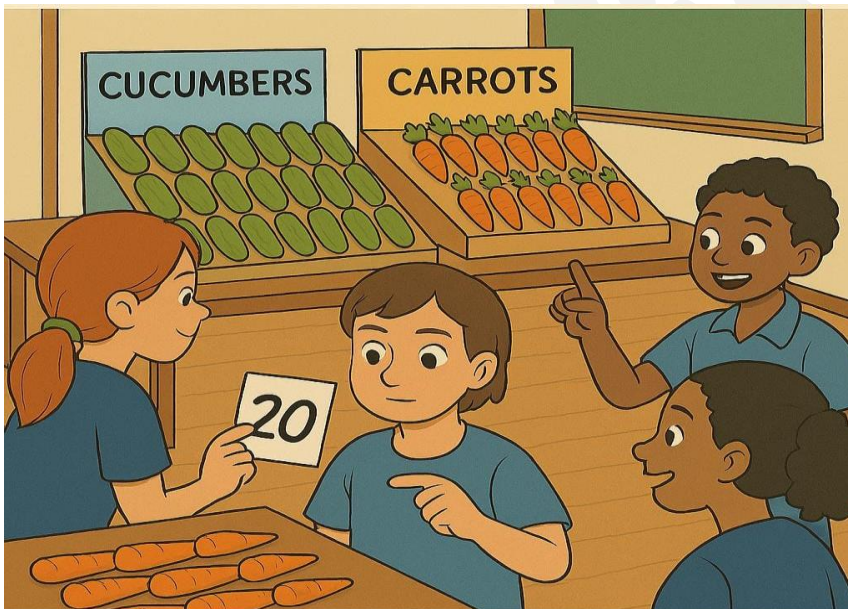
- Asha collects tokens at every 15th second.
- Ritu collects tokens at every 20th second.
- Veer collects tokens at every 30th second.

They all started at the same time. Their goal is to collect a jackpot together again.

Let's solve some questions based on their race!

1. What is the first jackpot point where both Ziggy and Zoomer land together?
2. After how many seconds will Asha, Ritu and Veer collect a jackpot token at the same time again?
3. Which numbers will appear in both Ziggy's and Zoomer's jumping before 100 ?
4. If Asha jumps every 15 seconds and a new player, Zara, jumps every 21 seconds, after how many seconds will they land together for the same time? Are 15 and 21 co-prime?

Case 2: The Cucumber - Carrot Game Challenge



At a school maths fair, there was a stall called “Cucumber - Carrot Game”.

Here's how the game worked:

There were two cartons - one with cucumber arranged in rows of 18, and another with carrots arranged in rows of 24. Each child had to take equal number of items from both cartons, such that the number of items taken was a common factor of both 18 and 24.

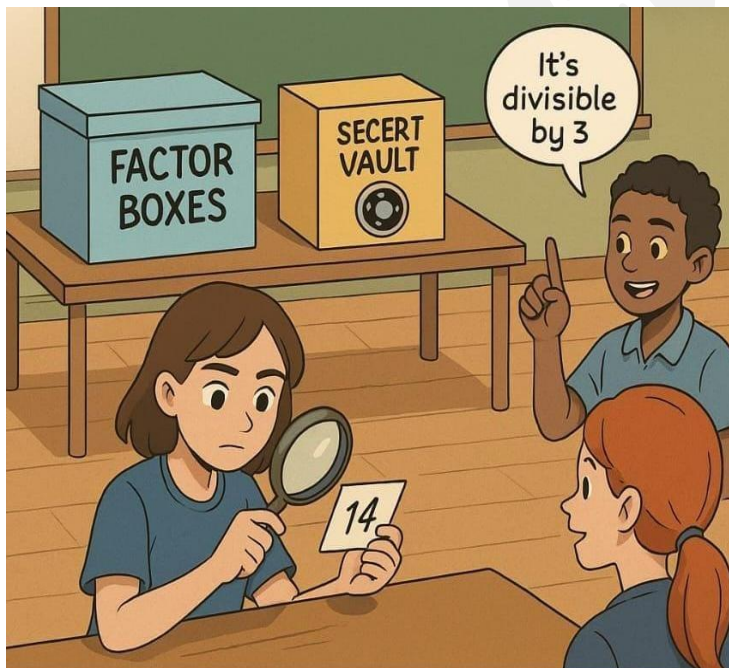
An extra challenge was introduced: some cartons had 49 cucumbers and 77 carrots, and students had to check if these numbers were co-prime.

Lastly, to win the bonus round, kids had to find the prime factorisation of the total number of items in the cucumber bag (let's say it was 90) and pick only the prime-numbered items.

Let's solve some questions -

1. What are all the possible number of items a child can take from both cartons if they must take an equal number of items?
2. Are 49 and 77 co-prime? Show how.
3. Find the prime factorisation of 90. Also list only the prime numbers used in its factorisation.
4. Rani wants to take 10 cucumbers and 15 carrots. Is that a valid move? Justify your answer.

Case 3: The Prime Detective Fun Game



In the school's Maths Carnival, there was a "Prime Detective Challenge".

Each student was given a mystery number card with a clue on it. The goal was to find the number using logical reasoning based on clues related to prime numbers, factors, and divisibility.

There were also Factor Boxes, where only numbers with exactly 3 factors could enter. Some cards belonged to a secret vault which only accepted numbers made of product of two primes.

The students were also asked to play a quick round of "Guess My Number", where clues involved divisibility rules and prime/composite properties.

1. **Detective Puzzle** - I am a two-digit prime number. I am divisible by 5, but not divisible by 10. The sum of my digits is 10 . What number am I?
2. **Secret Vault Puzzle** - Find any two numbers less than 20 that are made by multiplying two different prime numbers. Are those numbers even or odd?
3. **Factor Box Puzzle** - Which of these numbers – 4, 9, 15 and 25 can go into the Factor Box (have exactly 3 factors)?
4. **Guess My Number Game** - I am a two-digit number. I am divisible by 5 and 3. I am not a multiple of 10. Also, I am not a prime number. What number could I be?

Important links

- Answer of this worksheet - <https://www.teachoo.com/25635/5383/Case-Based-Questions---Worksheet-2/category/Teachoo-Questions---Case-Based/>
- Full Chapter with Explanation, Activity, Worksheets and more – <https://www.teachoo.com/subjects/cbse-maths/class-6/chapter-5-ganit-prakash/>
- Science Class 6 – <https://www.teachoo.com/subjects/science/class-6/>
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