

Class VII - Mathematics

Ganita Prakash

NUMBER PLAY

CBSE NOTES

NUMBER PLAY - Challenge Worksheet

Strengthen your foundation with key concepts and basic applications.



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Solve the following questions. Write your answers in the space provided.

1. Analyze the relationship between the heights of children and the numbers they call out based on the new arrangement. How can this scenario illustrate the mathematical concept of inequalities?

Hint: Consider using examples from both mathematical theory and real-life situations involving rankings or comparisons.



Solve the following questions. Write your answers in the space provided.

2. Given the scenarios of Kishor's number cards, reason why it is impossible to sum an odd number of odd numbers to an even number. Provide a logical analysis.

Hint: Think about the characteristics of addition involving parity and how they can impact outcomes.

3. Evaluate the claim that two siblings' ages can sum up to 112, given their relationship. What assumptions must be questioned?

Hint: Consider forming equations based on their age relationship and possible sums.



Solve the following questions. Write your answers in the space provided.

4. Propose a method to predict the parity of the total number of squares in a grid based solely on its dimensions without calculating the area.

Hint: Think about the characteristics of even and odd products in multiplication.

5. Discuss the implications of whether an expression can consistently yield even parity. What factors influence the parity of an expression?

Hint: Explore different types of mathematical expressions and their parity characteristics.



Solve the following questions. Write your answers in the space provided.

6. Explore the concept of even and odd numbered sums in more complex organizational systems such as tournament brackets or assignment distributions. What conclusions can be drawn?

Hint: Think about how odd/even distributions influence balance and even competition.



Challenge Questions

Solve the following questions. Write your answers in the space provided.

7. Considering the statement 'If a person says 0, then they are the tallest,' provide a comprehensive argument exploring its truthfulness. What scenarios might exemplify this?

Hint: Visualize the implications of various arrangements of numbers and height.



Solve the following questions. Write your answers in the space provided.

8. Investigate the outcomes when different combinations of odd and even integers are added. How can this inform our understanding of general numerical relationships?

Hint: Utilize small sets of integers to illustrate your findings.

9. Create a predictive formula for determining the n th odd number in a sequence. How does parity play a role in its derivation?

Hint: Focus on the relationship between even and odd sequences in your formula creation.



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Check your answers with the solutions below.

1. Analyze the relationship between the heights of children and the numbers they call out based on the new arrangement. How can this scenario illustrate the mathematical concept of inequalities?

Solution: Explore the implications of height as a variable. Consider how the arrangement contributes to the inequalities that each child's number represents.

2. Given the scenarios of Kishor's number cards, reason why it is impossible to sum an odd number of odd numbers to an even number. Provide a logical analysis.

Solution: Describe the fundamental properties of odd and even numbers. Use examples to illustrate various ways odd numbers interact in addition.

3. Evaluate the claim that two siblings' ages can sum up to 112, given their relationship. What assumptions must be questioned?

Solution: Investigate the relationship between consecutive integers and their properties. Provide a mathematical breakdown of age scenarios that uphold or contradict the claim.

4. Propose a method to predict the parity of the total number of squares in a grid based solely on its dimensions without calculating the area.

Solution: Utilize properties of multiplication and parity to establish a general rule. Provide varied examples to demonstrate its universal application.



Check your answers with the solutions below.

5. Discuss the implications of whether an expression can consistently yield even parity. What factors influence the parity of an expression?

Solution: Delve into the role of coefficients and constants within the expression structure that dictate the outcome. Justify your findings with representative examples.

6. Explore the concept of even and odd numbered sums in more complex organizational systems such as tournament brackets or assignment distributions. What conclusions can be drawn?

Solution: Analyze how parity impacts such organizational systems and theorize about their operational effectiveness based on numerical structure.

7. Considering the statement 'If a person says 0, then they are the tallest,' provide a comprehensive argument exploring its truthfulness. What scenarios might exemplify this?

Solution: Assess the validity of such statements through different examples and counterexamples, exploring the nuances of height and number calling in various arrangements.

8. Investigate the outcomes when different combinations of odd and even integers are added. How can this inform our understanding of general numerical relationships?

Solution: Conduct a thorough exploration of addition rules applied to odd and even integers. Provide examples that disprove or support commonly held beliefs.



Check your answers with the solutions below.

9. Create a predictive formula for determining the n th odd number in a sequence. How does parity play a role in its derivation?

Solution: Outline a step-by-step derivation of the formula while ensuring to discuss the relevance of even position numbers on identifying odds.



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