

## Problem of the Month

# Got Your Number

### Level A

Carol and Melissa are playing a game. They have a deck of 36 cards with just the numbers 1 through 9. After they mix up the cards, they put them into a pile. Below are the rules:

- Deal five number cards to each player.
- Use any three of your cards.
- Pick three numbers that add to a number near 20.
- Write a number sentence with your three cards and the total that is near 20.
- Find your score. Your score is the difference between your total and 20.
- For example, if you picked the cards 6, 9, 7,  $6 + 9 + 7 = 22$ . So your total is 22. To find your score, subtract 20 from 22.  $22 - 20 = 2$ .
- Shuffle the cards and play another round.

Play the game seven times. At the end of the game, sum all seven scores for each player. The player with the lowest total is the winner.

## Level B

Sandy and Sally are playing a game. They have a deck of 36 cards with just the numbers 1 through 9. After they mix up the cards, they put them into a pile. Below are the rules:

- Deal six cards to each player.
- Select any four of your cards to make two numbers. Each number would be a two-digit number.
- Arrange the numbers and then add them to get a sum as near 100 as possible.
- Once you have selected the two numbers and found the sum, write out the equations.
- Determine your score by finding the difference (distance) between your number and 100.
- Shuffle the cards and play another round.
- Play the game seven times. At the end of the game, sum all seven scores for each player. The player with the lowest total is the winner.

Explain the strategy you used to try to win the games. Explain why you chose that strategy.

## Level C

Jake and Linda are playing a game. They have a deck of 36 cards with just the numbers 1 through 9. After they mix up the cards, they put them into a pile. Below are the rules:

- Deal four cards to each player.
- Spin the spinner to select an operation.
- Arrange the digits into two fractions, such that the result of that operation upon the two fractions will produce the smallest possible outcome.
- Once you have selected the two fractions and found the outcome, write out the equations.
- The calculated outcome becomes your score for that round.
- Shuffle the cards and play another round.
- Play the game seven times. At the end of the game, sum all seven scores for each player. The player with the lowest total is the winner.

Explain the strategy you used to try to win the games. Explain why you chose that strategy.

# Operation Spinner







