

## Mental Math: Complements

Complements are two numbers that add to 100. Here are some examples.

$\begin{array}{r} 57 \\ +43 \\ \hline 100 \end{array}$	$\begin{array}{r} 68 \\ +32 \\ \hline 100 \end{array}$	$\begin{array}{r} 49 \\ +51 \\ \hline 100 \end{array}$	$\begin{array}{r} 21 \\ +79 \\ \hline 100 \end{array}$	$\begin{array}{r} 79 \\ +21 \\ \hline 100 \end{array}$
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Notice that for each pair of complements, the first digits add to 9 and the last digits add to 10.

Step	Example
	Find the complement for 37
First figure out what you need to add to the first number to get 9	$3 + 6 = 9$
Then figure out what you need to add to the 2 <sup>nd</sup> number to get 10	$7 + 3 = 10$
	The complement of 37 is 63

## Practice

Find the complements for these numbers

68	86	79	49	93
87	35	48	61	52

## Answers to Practice

68/32	86/14	79/21	49/51	93/7
87/13	35/65	48/52	61/39	52/48

## Game: Double Dog

Materials:

- Double Dog Boards/Dogs
- 2 10-sided Dice
- Dry erase boards/markers/erasers

**Object of the game:** Be the first to scratch off all 9 digits on your Double Dog board.

To play:

1<sup>st</sup> player rolls both dice and creates a 2-digit number from the results, then figures out the complement for that number **using mental math only** (no fair writing it down). If he is correct, he can mark out one of the digits in the complement from his Double Dog Board. (Note: You can only mark out 1 digit even though your complement may contain more digits that you need).

Continue taking turns until one player has marked out all of his/her digits.

If you roll a double, you can either choose to put a guard dog on one of your opponent's digits or take a guard dog off of one of your digits. (Or you can simply find the complement and play it like a regular roll.) If there is a dog on one of your digits, you cannot scratch it off until the dog is removed.

**1**

**2**

**3**

**4**

**5**

**6**

**7**

**8**

**9**

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