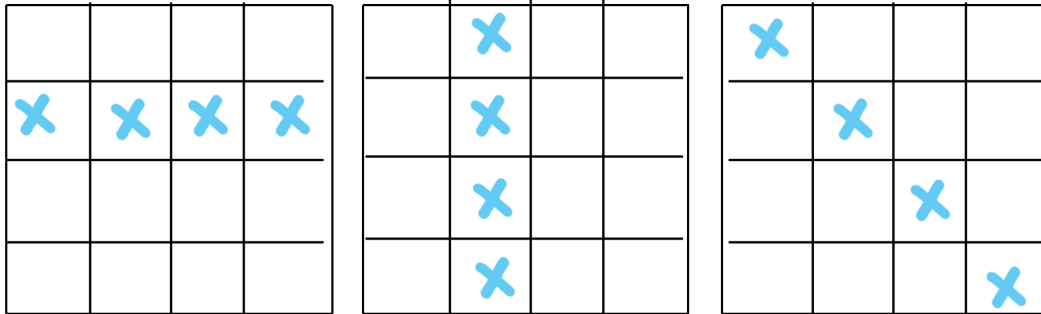


# Multi-Digit Addition & Subtraction 4-in-a-Row

## Object of the Game

Be the first player to claim 4 spaces in a row, column, or on the diagonal to win the game.



Three ways to win!

## Materials

- A deck of Number Cards containing 4 each of the numbers 1–9 *Print the Number Cards, make your own cards, or use the 2–9 cards and aces for 1s from a deck of playing cards.*
- 2 Addition & Subtraction 4-in-a-Row game board (1 for each player) *Print the Addition & Subtraction 4-in-a-Row game boards (2-Digit) or Addition & Subtraction 4-in-a-Row game board (3-Digit), or use paper and pencil to make your own.*
- Scrap paper for solving problems
- Pencil or pen



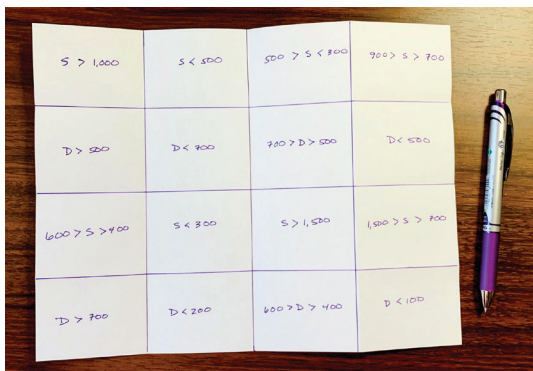
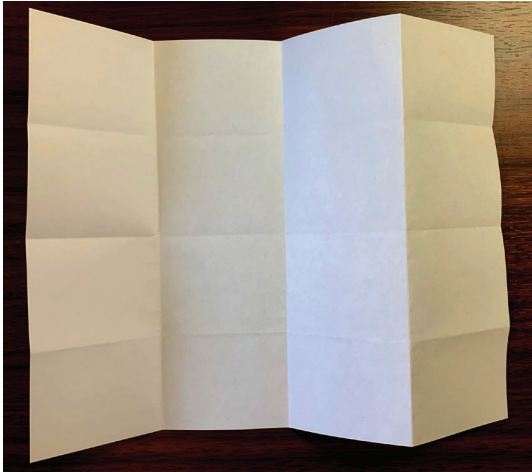
## Skills

This game helps us practice:

- Adding and subtracting 2- and 3-digit numbers
- Estimating sums and differences

## How to Play

1. Choose which version of the game you want to play:  
Use the **2-Digit Version** to add and subtract 2-digit numbers.  
Use the **3-Digit Version** to add and subtract 3-digit numbers.
2. Each player prepares an Addition & Subtraction 4-in-a-Row game board. If making your own, copy the text from the printable game board to your homemade one.  
*Hint: You can quickly make a 4 by 4 grid by folding a piece of paper in half twice horizontally, then twice vertically.*



< means less than

> means greater than

S stands for Sum.  
That's an addition answer!

D stands for Difference.  
That's a subtraction answer.

So  $S < 50$  means a sum  
less than 50.

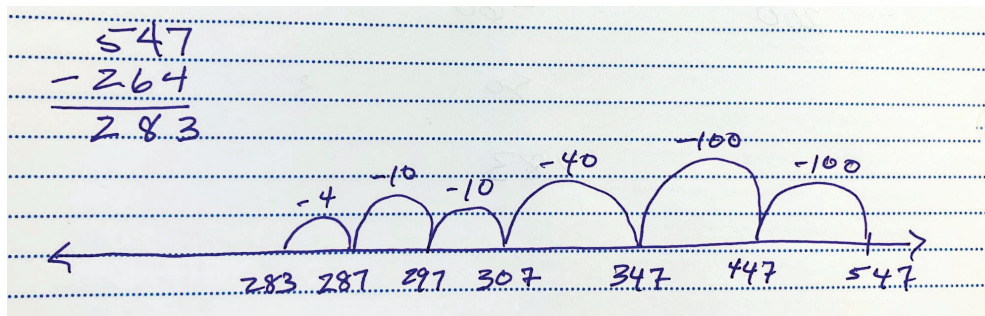
And,  $700 > D > 500$  means a  
difference between 700 and 500.

3. Remove the wild cards from the deck of number cards, then mix up the cards and place them face-down in a stack.
4. Player 1 draws 4 cards for the 2-digit game or 6 cards for the 3-digit game.
5. Player 1 makes two 2-digit numbers or two 3-digit numbers.

6. Each player chooses to either add or subtract the numbers to get a sum or difference described on the board.

$$\begin{array}{r}
 547 = 500 + 40 + 7 \\
 + 264 = 200 + 60 + 4 \\
 \hline
 700 + 100 + 11 \\
 800 + 11 \\
 811
 \end{array}$$

Abby made 547 and 264. She added and found that the sum is 811.



Layla subtracted the same two numbers. She found that the difference is 283.

7. Players claim a space on their boards by writing the sum or difference in a space that describes the number.

Abby's Game Board	Layla's Game Board
$500 > S < 300$	$S > 1,000$
$900 > S > 700$	$S < 500$
$700 > D > 500$	$D > 500$
$D < 500$	$D < 700$ $547 - 264$ $283$
$S > 1,500$	$600 > S > 400$
$1,500 > S > 700$ $547 + 264$ $811$	$S < 300$
$600 > D > 400$	$D > 700$
$D < 100$	$D < 200$

Abby's sum is 811. It is between 1,500 and 700.

Layla's difference is 283. It is less than 700.

8. Set the used number cards aside when done.
9. Players take turns drawing cards and making numbers.
10. The winner is the first player to claim 4 spaces in a row, column, or on the diagonal!

### Tips for Families

- As you play, talk about how you're choosing to use your numbers and which operation to use. There is a lot of strategy involved!
- Students may have addition and subtraction strategies not familiar to you, like making jumps on a number line, or breaking apart numbers by place value. Ask questions if you don't understand a strategy. It's always interesting to learn something new.

### Change It Up

Making even small changes to a game can invite new ways of thinking about the math. Try making one of the changes below. How did it change your strategy for winning the game?

- Include the 4 wild cards in your deck of number cards, or 4 queens if you're using regular playing cards. When a player draws a wild card, each player can assign a number of their choosing to the card.
- Change the winning requirement to claiming 2 sets of 4 in a row, or claiming all of the spaces.
- Draw 1 extra card. After Player 1 makes the two numbers, Player 2 can swap out one of the digits with the extra card.
- Draw 6 cards. Make either two 3-digit numbers, or a 4-digit number and a 2-digit number.



<b>1</b>	<b>2</b>	<b>3</b>
<b>1</b>	<b>2</b>	<b>3</b>
<b>1</b>	<b>2</b>	<b>3</b>
<b>1</b>	<b>2</b>	<b>3</b>



<b>4</b>	<b>5</b>	<b><u>6</u></b>
<b>4</b>	<b>5</b>	<b><u>6</u></b>
<b>4</b>	<b>5</b>	<b><u>6</u></b>
<b>4</b>	<b>5</b>	<b><u>6</u></b>



<b>7</b>	<b>8</b>	<b>9</b> —
<b>7</b>	<b>8</b>	<b>9</b> —
<b>7</b>	<b>8</b>	<b>9</b> —
<b>7</b>	<b>8</b>	<b>9</b> —



<b>Wild Card</b>		
<b>Wild Card</b>		
<b>Wild Card</b>		
<b>Wild Card</b>		



# ADDITION & SUBTRACTION 4-IN-A-ROW – 2-DIGIT VERSION

$S > 100$	$S < 50$	$200 > S > 100$	$100 > S > 50$
$D > 50$	$D < 75$	$75 > D > 50$	$D < 50$
$60 > S > 40$	$S < 30$	$S > 150$	$150 > S > 75$
$D > 75$	$D < 20$	$60 > D > 40$	$D < 10$

# ADDITION & SUBTRACTION 4-IN-A-ROW – 3-DIGIT VERSION

$S > 1,000$	$S < 500$	$500 > S > 300$	$900 > S > 700$
$D > 500$	$D < 700$	$700 > D > 500$	$D < 500$
$600 > S > 400$	$S < 300$	$S > 1,500$	$1,500 > S > 700$
$D > 700$	$D < 200$	$600 > D > 400$	$D < 100$