



## **Addition: Notes**

### **What is addition?**

- When you **add numbers together**
- Numbers added together make a **sum (answer)**
- **Several numbers/digits** can be added together
- Equations/Number sentences are either **horizontal** or **vertical**
- **3 Digit Numbers (Hundreds, Tens, Ones)**

### **How to do addition?**

- **3 methods:**
  - **Mental math**
    - Students who choose to **memorize each single digit addition equation** most commonly use this method
    - Example: Solve  $2+3$
    - Use **memorized table** to say the answer is 5
  - **Counting forward mentally**
    - Students **count forward mentally** to solve single digit addition equations
    - Example: Solve  $2+6$
    - Say to yourself, “2, 3, 4, 5, 6, 7, 8” or, “2, 4, 6, 8”
    - Counting mentally to say the answer is 8
  - **Counting forward using fingers**
    - Students **use fingers by counting by ones** to solve single addition digit equations
    - Example:  $3+4$
    - Count on fingers, “3, 4, 5, 6, 7”
    - Using fingers to say the answer is 7

### **Addition with Multiple Digits:**

- When we add numbers with 2 or more digits we **add digits of each place value together**, then add the numbers of the next place value.
  - Example:  $10+13$   
Or  
$$\begin{array}{r} 10 \\ +13 \\ \hline 23 \end{array}$$
  - Start with ones place, then tens places, then hundred, then thousands, etc.



- Add  $0+3$  to get 3 then  $1+1$  to get 2. Put the two new numbers together in place value order (tens place, then ones place)
- The answer would be 23.
- Easier to **solve addition equations with 2 or more digits vertical.**
- **Remember which place value each number is in and goes to!!**

### Carrying Over with Addition:

- If the sum of the digits in a place value is **more than 9**, write the value of the ones place and **add 1 to the next place value over** (Remember go to the left!)
- Since 9 is the last single digit number on the number line, we add a 1 to the next place value in order to represent the 2nd digit of that number
  - Example:  **$230+299$**

Or

$$\begin{array}{r} +1 \\ 230 \\ +299 \\ \hline 529 \end{array}$$

- First you would add  $0+9$  to get 9 and write it in the ones place
- Then you would go on to the tens place and add  $9+3$  to get 12
- You would write 2 in the tens place and write +1 on top of the hundreds place
  - Since 12 is not a single digit number, we have to carry its second digit (1) over to the next place value
- Finally you would add  $1+2+2$  to get 5
- Your final answer would be 529
- **Remember which place value each number is in and goes to!!**