

## Front-End Estimation with Adjustment

### Mental Math Strategy

**When to use this strategy:** Use this strategy when you subtracting and there are numbers that are compatible.

**How to use this strategy:** Look for an “added” number (or positive number) and a “subtracted” number that end with the same number or numbers. Combine these first. Then add or subtract the remaining numbers.

**Examples:**  $13 + 56 + 25 + 19$ ; front ends are  $1 + 5 + 2 + 1 = 9 \rightarrow 90 + \text{adjustment}$ . Looking at the ones place we should adjust up by 10 or 20. Ans: 110.

$3,195 \times 203 \approx 3000 \times 200 \approx 600000 + \text{adjustment} \approx 640,000$

Use this (new) strategy on the following:	
1.) Estimate the total bill for the following items: \$4.32, \$7.41, \$6.23.	2.) If you make the following three deposits in your savings account: \$219, \$343, \$443. Estimate the total deposit.
3.) Estimate the solution: $\frac{x}{9.02} = 3.06$	4.) Estimate the solution: $x - 5.47 = 3.49$

Use any strategy you know on the following:	
5.) Evaluate: $\frac{2}{5} \times \frac{19}{5} =$	6.) Brand X peanut butter has 210 calories per serving. Brand Y peanut butter has 190 calories per serving. What is the difference?
7.) Estimate the area of a rectangle, if the dimensions are 218 m by 601 m.	8.) Water is going over the spillway at a rate of 5 gal per second. How much water goes over the spillway in one hour?