NAME _____ DATE _____ PERIOD _____

3-4 Study Guide and Intervention

Estimating Sums and Differences

Estimation Methods	
Rounding	Estimate by rounding each decimal to the nearest whole number that is easy for you to add or subtract mentally.
Front-End Estimation	Estimate by first adding or subtracting the front digits. Then add or subtract the next digits.
Clustering	Estimate by rounding a group of close numbers to the same number.

EXAMPLE 1 **Estimate 14.07 + 43.22 using front-end estimation.**

Add the front digits.

$$\begin{array}{r} 14.07 \\ +\ 43.22 \\ \hline 5 \end{array}$$

Add the next digits.

$$\begin{array}{r} 14.07 \\ +\ 43.22 \\ \hline 57.00 \end{array}$$

An estimate for 14.07 + 43.22 is 57.

EXAMPLE 2 **Use clustering to estimate \$7.62 + \$7.89 + \$8.01 + \$7.99.**

To use clustering, round each addend to the same number.

$$\begin{array}{rcr} 7.62 & \rightarrow & 8.00 \\ 7.89 & \rightarrow & 8.00 \\ 8.01 & \rightarrow & 8.00 \\ +\ 7.99 & \rightarrow & +\ 8.00 \\ \hline & & 32.00 \end{array}$$

An estimate for \$7.62 + \$7.89 + \$8.01 + \$7.99 is \$32.

EXERCISES

Estimate using rounding.

1. 59.118 + 17.799 **2.** \$45.85 + \$6.82 **3.** 4.65 + 4.44

Estimate using front-end estimation.

4. $\begin{array}{r} 81.23 \\ +\ 5.51 \\ \hline \end{array}$ **5.** $\begin{array}{r} 42.06 \\ +\ 17.39 \\ \hline \end{array}$ **6.** $\begin{array}{r} 754.23 \\ -\ 23.17 \\ \hline \end{array}$

Estimate using clustering.

7. \$0.99 + \$1.15 + \$0.52 **8.** 3.65 + 4.02 + 3.98 **9.** 6.87 + 6.97 + 7.39