Warm-up

- $6 \times 1 = 6$
- $6 \times 2 = 12$
- $6 \times 3 = 18$
- $6 \times 4 = 24$
- $6 \times 5 = 30$
- $6 \times 6 = 36$

- $6 \times 7 = 42$
- $6 \times 8 = 48$
- $6 \times 9 = 54$
- $6 \times 10 = 60$
- $6 \times 11 = 66$
- $6 \times 12 = 72$
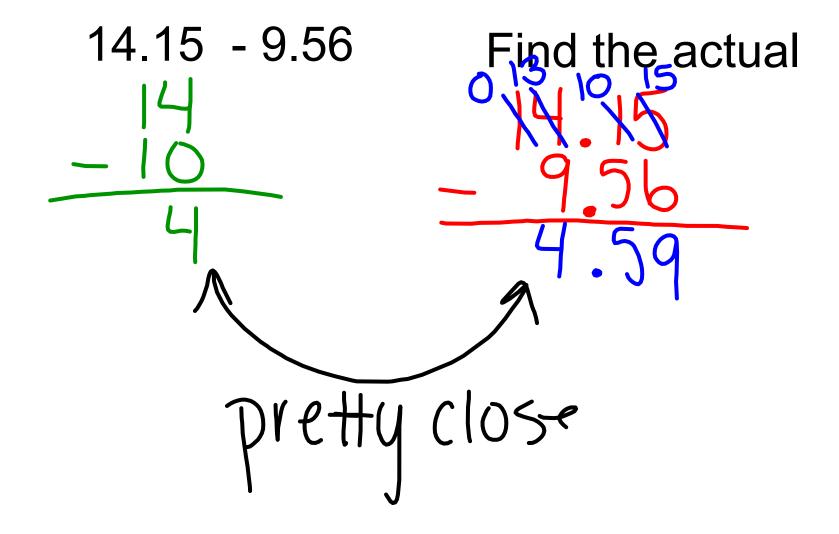
__Front-End Estimation__

-Another form of estimating

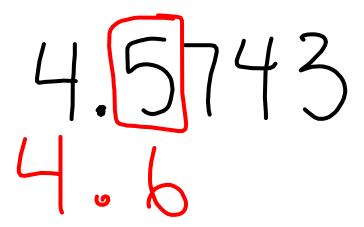-We just cut off the decimal part and use the numbers in front of decimal and add or subtract.

__Ex)__

5.45 + 9.89 + 3.53 + 6.03

$$5 + 10 + 4 + 6$$

$$\begin{array}{r} 15 \\ 10 \\ 4 \\ 6 \\ \hline 25 \end{array}$$

We will just use cut off the decimal

Estimate the difference

14.15 - 9.56

Find the actual

$$
\begin{array}{r}
14 \\
-10 \\
\hline
4
\end{array}
$$

$$
\begin{array}{r}
{}^{0}\;{}^{13}\;{}^{10}\;{}^{15} \\
14.15 \\
-\;\;9.56 \\
\hline
4.59
\end{array}
$$

pretty close

4.5743

4.6

Round each number to the nearest tenth.

1) 8.23   _8.2_

2) 5.24 ≈ _5.2_

3) 9.38 ≈ _9.4_

4) 2.31 _2.3_

5) 9.46 _9.5_

6) 3.46 ≈ _3.5_

7) 5.24 ≈ _5.2_

8) 8.45 _8.5_

9) 9.69 _9.7_

10) 2.45 _2.5_

Round each decimal to the nearest whole number

1) 9.231 _9_

2) 3.272 _3_

3) 6.318 _6_

4) 3.337 _3_

5) 3.556 _4_

6) 1.775 _2_

7) 4.859 _5_

8) 8.854 _9_

9) 9.248 _9_

10) 9.958 _10_

1. Use front-end estimation to estimate each sum or difference.

a) 3.478 - 0.846

$3.000 - 1$

2

b) 79.216 + 5.21

$79 + 5$

84

c) 147.14 + 34.97

$\begin{array}{r} 147 \\ + \quad 35 \\ \hline 182 \end{array}$

d) 10.9 - 1.47

$11 - 1$

$\boxed{10}$

2) Tim travels the same road to get to his grandmothers house and his friend Karen's house. If the distance from Tim's house to his grandmother's house is 0.743 km and the distance from Karen's house to Tim's house is 0.476 km, then what is the difference in the distance from Karen's house to Tim's Grandmothers

KNOW

grandmother 0.743km

Karen 0.476 km

Find

difference

$\begin{array}{r} 0.743 \\ - \; 0.476 \\ \hline 0.267 \end{array}$

The difference between houses is 0.267 Km

3) Four classes of students at Blackville are planning a trip. The total cost is $2048.50. To date the classes have raided: $376.15, $424.05, $231.24, $376.75.

a) How much money have the classes raised so far?

b) How much more money do the classes need to raise in total?

4) A chef is preparing 3 different types of pasta dishes. The recipes require 1.8 kg, 3.25 kg, and 4.6 kg of pasta. The chef has 8.5 kg of pasta available.

a) How many kilograms of pasta does the chef need in total? Estimate to check if your answer is reasonable.

b) Does the chef have enough pasta to make all the dishes? How can you tell?

c) If the chef wants to follow the recipes exactly, and your answer to part b is no, how many more kilograms of pasta are needed? If your answer to part b is yes, how much pasta will be left over?

5) Estimate, then calculate, the sum below. Explain how you estimated: $35.42 + 7.8 + 2.135$

6) The Lopez family and the Patel family have similar water usage habits.

The Lopez family does not use water-saving fixtures. Their monthly water bills were: $87.50, $92.30, and $78.45.

The Patel family installed water-saving fixtures in their home. Their monthly water bills were: $65.40, $58.75, and $62.10.

a) How much money did each family spend on water during the three months?

b) How much more money did the Lopez family spend? Estimate to check your answer is reasonable.

c) What other measures could a family take to reduce their water bills?