1.1 Using Estimation Strategies

***Place Values:**

Whole Number . Tenths Hundredths Thousandths

***Rounding:**

Look at number to the right of the place that you are rounding to. If it is greater than or equal to 5 the place that you are rounding to will round up. If it is less than 5 the place that you are rounding to will remain same.

ex) $5.68 \approx 5.7$

ex) $5.63 \approx 5.6$

***Approximately:**

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Ex) Use rounding to estimate the sum to the nearest tenth.

$4.45 + 8.84$

4.5
$+8.8$
13.3

Ex) Use rounding to estimate the difference to the nearest tenth.

$6.19 - 2.86$

6.2
-2.9
3.3

Ex) Use rounding to estimate each product to the nearest whole number.

6.5 x 8.32

7 x 8 = 56

*Front-End Estimation: Add the whole # part. Estimate decimal part to the nearest whole number. Add the two pieces together.

Use front-end estimation to find the sum.

Ex) 3.79 + 0.89 + 1.39

3 + 1 = 4

.79 → 1
.89 → 1
+ .39 → + 0
2

4 + 2 = 6

Ex) 32.73 + 9.82 + 89.24

232 + 89 = 130

.73 → 1
.82 → 1
+ .24 → + 0
2

130 + 2 = 132

*Compatible Numbers: Numbers that are easy to compute (Divide or multiply easily.)

Ex) 66.8 ÷ 7.3 70 ÷ 7 = 10

Ex) 37.2 ÷ 9.2 36 ÷ 9 = 4

Ex) 100.23 ÷ 12 100 ÷ 10 = 10

Clustering: Determine what number the values are all close too. Multiply that number by # of values.

Ex) 14.2 + 13.9 + 13.1 + 13.5 + 14.8

14 x 5 = 70

Ex) 4.2 + 3.4 + 4.8 + 3.0 + 4.2

4 x 5 = 20