Trimester 2 Review Sheet

Mean, Median, Mode and Operations with Decimals

Mean

The mean is found by adding all of the values in a set and dividing by the number of values.

Examples: Find the mean of the following sets of data.

1. 17, 20, 14, 18, 16

$$\frac{17+20+14+18+16}{5} = \frac{85}{5} = \boxed{17}$$

2. 8, 9, 12, 7

$$\frac{8+9+12+7}{4} = \frac{36}{4} = \boxed{9}$$

Median

The median is the number that falls exactly in the middle of a set of data when the data are arranged in order from least to greatest. An even number of numbers in a set of data has two middle numbers. In this case, we need to find the mean of the two numbers.

Examples: Find the median of the following sets of data.

1. 7, 16, 13, 11, 14, 50, 17

7, 11, 13, $\boxed{14}$, 16, 17, 50

2. 8, 9, 12, 7

7, ⑧, ⑨, 12

$$\frac{8+9}{2} = \frac{17}{2} = \boxed{8.5}$$

Mode

The mode is the value in a set of data that occurs the most often. Sometimes there is more than one value that occurs the most often. In this case, all these highest values are modes for the set of data. Sometimes there is no value that occurs most often than the others. In this case, there is no mode.

Examples: Find the mode of the following sets of data.

1. 55, 58, ⑥②, 65, 67, ⑥②, 72

$\boxed{62}$ 62 occurs the most often

2. ② 1 ③ 0, 1, 5 ③ 4 ② 0 ③ 1 ②

$\boxed{2 \text{ and } 3}$ 2 and 3 occur the most often

3. 73%, 85%, 65%, 81%, 93%

$\boxed{\text{no mode}}$ no value occurs the most often

Adding Decimals

Rules for Adding Decimals

1. Line up the decimals so that the place values line up.

2. Add as if we are adding whole numbers.

3. Bring the decimal straight down into the sum (the answer to an addition problem).

Examples: Find the following sums.

1. $7.938 + 3.45$

$$
\begin{array}{r}
^{1}7.938 \\
+\,3.450 \\
\hline
11.388 \\
\hline
\end{array}
$$

2. $7 + 9.816$

$$
\begin{array}{r}
7.000 \\
+\,9.816 \\
\hline
16.816 \\
\hline
\end{array}
$$

Subtracting Decimals

Rules for Subtracting Decimals

1. Line up the decimals so that the place values line up.

2. Add as if we are subtracting whole numbers.

3. Bring the decimal straight down into the difference (the answer to a subtraction problem).

Examples: Find the following differences.

1. $15 - 3.84$

$$
\begin{array}{r}
15.00 \\
-\,3.84 \\
\hline
11.16 \\
\hline
\end{array}
$$

2. $5.04 - 3.681$

$$
\begin{array}{r}
5.040 \\
-\,3.681 \\
\hline
1.359 \\
\hline
\end{array}
$$

Multiplying Decimals

Rules for Multiplying Decimals

1.   Multiply the two factors (the numbers being multiplied) as if there are no decimals.
2.   Find the total number of decimal place values in the factors.
3.   The number of decimal place values in the product (the answer to a multiplication problem) should be the same as the total we found in step 2.

Examples: Find the following products.

1. 1.8×3.29

$$3.29 \leftarrow 2 \text{ decimal places}$$
$$\times\ 1.8 \leftarrow +1 \text{ decimal place}$$
$$2632$$
$$+3290$$
$$\overline{5922} \leftarrow 3 \text{ decimal places}$$

2. 0.2×0.03

$$0.03 \leftarrow 2 \text{ decimal places}$$
$$\times\ \ 0.2 \leftarrow +1 \text{ decimal place}$$
$$\overline{0.006}\ \ \ 3 \text{ decimal places}$$

Dividing Decimals

Rules for Dividing Decimals

1.   If the divisor (the number doing the dividing) is a decimal move the decimal as many places to the *right* as necessary to make a whole number. Move the decimal in the dividend (the number being divided) the **same** amount of places to the *right*. If the divisor is a whole number, go to step 2.
2.   Place the decimal point for the quotient (the answer to a division problem) directly above the decimal point in the dividend.
3.   Divide the same way we divide whole numbers.

Examples: Find the following quotients.

1. $26.88 \div 4$

$$
\begin{array}{r}
6.72 \\
4\overline{)26.88} \\
-24 \\
\hline
28 \\
-28 \\
\hline
08 \\
-8 \\
\hline
\end{array}
$$

2. $1.2832 \div 0.16$

$$
\begin{array}{r}
8.02 \\
0.16\overline{)1.2832} \\
-128 \\
\hline
03 \\
-0 \\
\hline
32 \\
-32 \\
\hline
\end{array}
$$