Solution Guide for Chapter 5

Here are the solutions for the "Doing the Math" exercises in *Kiss My Math*!

DTM from p.69-70

2. 1, 2, 3, 4

Mean: There are 4 terms total, so we'll add them up and divide by 4:

$$\frac{1+2+3+4}{4} = \frac{10}{4} = 4\overline{)10.0} = 2.5$$

Median: The list is already in small-median-large order, so since there are an even number of terms, we take the middle two terms, 2 and 3, and get their average: $\frac{2+3}{2} = \frac{5}{2} = 2.5$

Mode: All the numbers happen the same number of times (once), so there is no mode.

Answer: mean = **2.5**, median = **2.5**, there is **no mode**

3. 3, –6, 3, 3, 0, 15, 3

Mean: There are 7 terms total, so we'll combine them and divide by 7

$\frac{3+(-6)+3+3+0+15+3}{7}$ = (combining first two terms in numerator)

$\frac{-3+3+3+0+15+3}{7} = \frac{21}{7} = 3.$

Median: first, we'll write them in order small-median-large order:

–6, 0, 3, 3, 3, 3, 15

Since there are an odd number of terms, we pick the one in the very center of the list, which happens to be one of the 3's. Median = 3

Mode: This list is clearly in the mood for 3, since it happens much more than any other number in the list. Mood = 3.

Answer: mean = **3**, median = **3**, mode = **3**

4. 15, 2, 7, 2, 7, 3

Mean: There are 6 terms, so we'll add them all up and divide by 6:

$\frac{15+2+7+2+7+3}{6} = \frac{36}{6} = 6.$

Median: let's put the numbers in order:

2, 2, 3, 7, 7, 15

Since there are an even number of terms, we pick the two that are in the center, 3 and 7, and take their average: $\frac{3+7}{2} = \frac{10}{2} = 5.$

Mode: There are two different numbers that all happen twice, 2, and 7, so this list has two modes!

Answer: mean = **6**, median = **5**, mode = **2 and 7**

5. –4, –4, –1, –2, 0, –1

Mean: There are 6 numbers in this list, so we'll combine them and divide by 6:

$\frac{-4+(-4)+(-1)+(-2)+0+(-1)}{6}$ Notice that the zero disappears, and we're left with *only* negative numbers, which makes combining them easier to handle than if it was mixed positive/negative. $\frac{-4+(-4)+(-1)+(-2)+0+(-1)}{6} = \frac{-12}{6} = -2.$

Median: let's put the numbers in order: –4, –4, –2, –1, –1, 0

Since there are an even number of terms, we'll take the two center numbers, –2, –1 and find their average, which of course is –1.5.

Mode: –4 and –1 each happen twice in this list; the other numbers only happen once, so this list has two modes:–4 and –1.

Answer: mean = **–2**, median = **–1.5**, modes = **–4 and –1**.