

In Class Exercise #2: Cumulative Frequencies and Histograms

1. “I’ve been on a diet for two weeks, and the only thing I’ve lost is two weeks”<sup>1</sup>

The latest craze to hit celebrities and health fanatics alike is the Paleo or Caveman diet. This means only eating items that our hunter-gatherer ancestors had access to; so plenty of fruits, veggies, meat, fish, nuts and seeds, but no grains such as breads and pasta, dairy, or sugar. Long term studies have yet to show whether low-carb diets such as the Paleo are effective in weight management - so the fad maybe waning. Another blow was dealt more recently to hardcore Paleo dieters. Archaeologists discovered a 14,000-year-old bread-making site in Jordan, leading to suggestions that toast could be added to the Paleo Diet<sup>2</sup>.

For 75 self-professed Carboholics, the number of days that they were able to stay on the Paleo diet before falling off the wagon are shown below.

50	51	51	52	52	53	53	54	55	55	56	56	57	57	57
60	60	60	61	62	63	64	65	66	66	68	69	69	70	70
70	70	70	71	71	71	72	73	73	74	75	75	75	78	79
80	80	82	83	87	88	94	95	95	96	99	99	99	99	100
100	101	101	112	112	113	114	115	117	117	120	121	124	124	124

(a) Using six classes, calculate the class width.

(b) Complete the table below.

	Freq.	Rel. Freq (%)	Mdpt.	LTCF	LTCF (%)

(c) Using the table from part (b), determine the following

- i. There are \_\_\_\_\_ dieters who fall into the first category. They lasted at most \_\_\_\_\_ days on the Paleo diet, and account for \_\_\_\_\_% of the respondents.
- ii. \_\_\_\_\_ people were able to stay on the diet for at most 101 days.
- iii. Less than 68% of the Carboholics were able to sustain the Paleo diet for a maximum of \_\_\_\_\_ days.
- iv. Exactly \_\_\_\_\_ Carboholics can be found in the fifth class. These people lasted \_\_\_\_\_ days on the Paleo diet before falling off the wagon. This category represent \_\_\_\_\_ of the participants.

<sup>1</sup>[https://www.brainyquote.com/quotes/totie\\_fields\\_312007](https://www.brainyquote.com/quotes/totie_fields_312007)

<sup>2</sup><https://www.npr.org/sections/thesalt/2018/07/24/631583427/14-000-year-old-piece-of-bread-rewrites-the-history-of-baking-and-farming>

