Interpret Mean Absolute Deviation

1. You need to decide which of two brands of chocolate chip cookies to buy. You really love chocolate chip cookies. The numbers of chocolate chips in each of five cookies from each brand are as follows:

| Cookie	1	2	3	4	5
ChocFull	17	19	18	18	18
AllChoc	22	15	14	21	18

a) Draw a dot plot for each set of data that shows the distribution of the number of chips for that brand. Use the same scale for both of your dot plots (one that covers the span of both distributions).

b) Find the mean number of chocolate chips for each of the two brands. Compare the means.

c) Looking at your dot plots and considering variability, which brand do you prefer? Explain your reasoning.

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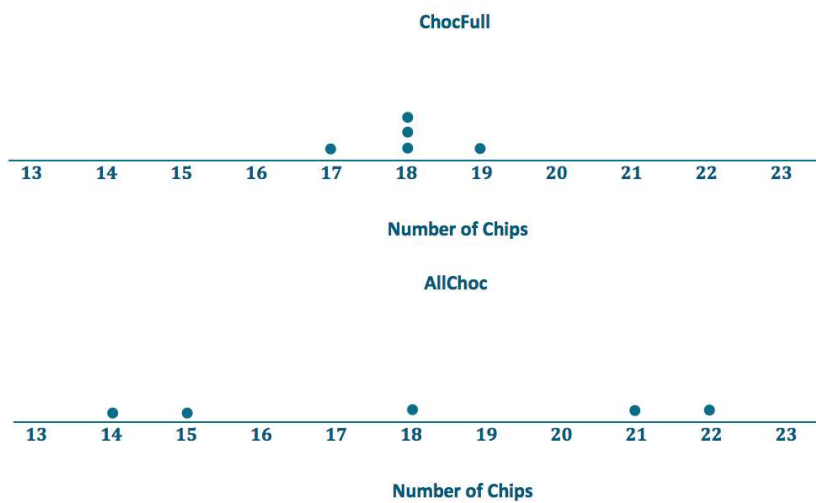
ChocFull

AllChoc

b) Find the mean number of chocolate chips for each of the two brands. Compare the means.

Mean for ChocFull: 18 chocolate chips
Mean for AllChoc: 18 chocolate chips
The means for the two different brands are the same.

c) Looking at your dot plots and considering variability, which brand do you prefer? Explain your reasoning.

Students could argue either way:
Students who prefer ChocFull may argue that they are assured of getting 18 chips most of the time, with no fewer than 17 chips, and a bonus once in a while of 19 chips. With AllChoc, they may sometimes get more than 20 chips but would sometimes get only 14 or 15 chips.
Students who prefer AllChoc are the risk takers who are willing to tolerate the chance of getting only 14 or 15 chips for the chance of getting 21 or 22 chips.

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