

Week 3 — One-variable summaries: Wednesday exit ticket

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Name: _____

Date: _____

Instructions

Work through each item below. Write your final response in the space provided. Show enough work that another reader can follow your reasoning.

1. Daily air quality is reported as an Air Quality Index (AQI) from 0 to 300, where higher means worse air. For a sample of 91 days in one city, the histogram of daily AQI is unimodal and right skewed: most days fall between about 20 and 60, with a long right tail of a few days above 120. The five-number summary (AQI) is: minimum 12, $Q1 = 34$, median 44, $Q3 = 58$, maximum 167.
 - (a) Describe the shape of the distribution in one sentence.
 - (b) Would you expect the mean AQI to be higher or lower than the median? Why?
 - (c) Compute the IQR.
 - (d) Using the $1.5 \times \text{IQR}$ rule, find the upper cutoff for outliers. Would an AQI of 167 be flagged as an outlier?