1. Most of the data values are on the left clustered around
$32, and the tail extends to the right. The distribution is
skewed right. So, the median and the interquartile range
are the most appropriate measures to describe the center
and the variation.

Median: The middle value is $32.

Interquartile range: The first quartile is 30, and the third
quartile is 36. So, the interquartile range is $36 - 30 = 6$.

The data are centered around $32. The middle half of the
data varies by no more than $6.

2. The left side of the graph is a mirror image of the right
side of the graph. The distribution is symmetric. So, the
mean and the mean absolute deviation are the most
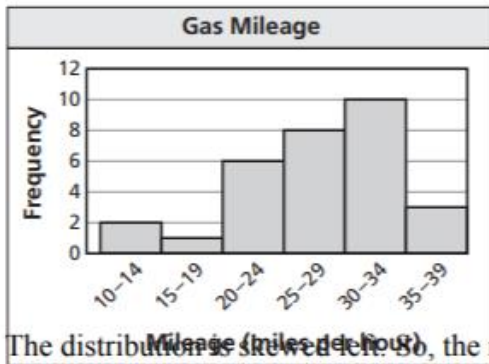appropriate measures to describe the center and the
variation.

$$\text{Mean} = \frac{\begin{array}{c}2 + 3 + 3 + 4 + 4 + 4 \\ + 5 + 5 + 5 + 5 + 5 + 6 \\ + 6 + 6 + 7 + 7 + 8\end{array}}{17} = \frac{85}{17} = 5$$

$$\text{MAD} = \frac{\begin{array}{c}3 + 2 + 2 + 1 + 1 + 1 \\ + 0 + 0 + 0 + 0 + 0 \\ + 1 + 1 + 1 + 2 + 2 + 3\end{array}}{17} = \frac{20}{17} \approx 1.2$$

The mean is 5 hours and the mean absolute deviation is
about 1.2 hours.

3. no; You do not know the actual values in the data set.
You can approximate the mean and MAD but your
answers will not be exact.

4. a.

Gas Mileage

The distribution is skewed left. So, the median and interquartile range are the most appropriate measures.

b. *Sample answers*: Most of the vehicles made by the company get more than 25 miles per gallon. You can estimate that the median of the data set is in the interval 25–29.

5. *Sample answer*: