1. **Solution**
The sample size, n, is 32. We determine the indeces and values of Q1, Q2, and Q3.

Quartile	Formula for i	i	x
Q1	$\lceil 0.25 \times 32 \rceil$	8	52.31
Q2	$\lceil 0.5 \times 32 \rceil$	16	52.46
Q3	$\lceil 0.75 \times 32 \rceil$	24	52.67

We determine the IQR.

$$\begin{aligned} \text{IQR} &= \text{Q3} - \text{Q1} \\ &= 52.67 - 52.31 \\ &= 0.36 \end{aligned}$$

We determine the outlier boundaries.

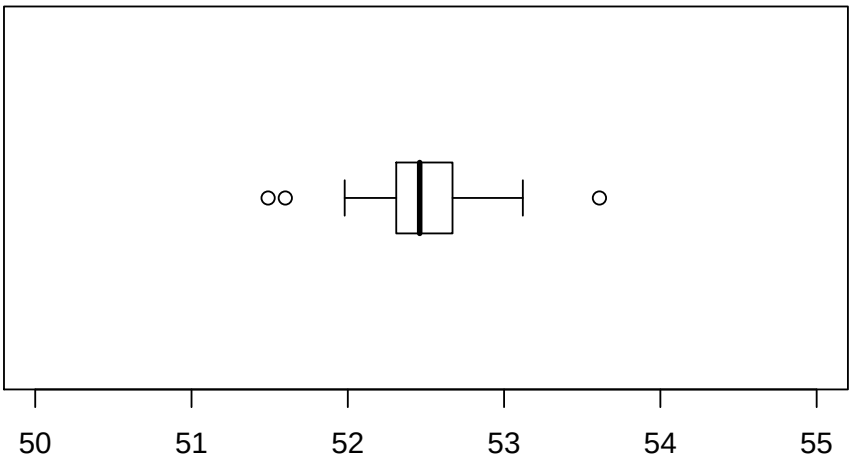
$$\begin{aligned} \text{lower boundary} &= \text{Q1} - 1.5 \times \text{IQR} \\ &= 52.31 - 1.5 \times 0.36 \\ &= 51.77 \end{aligned}$$

$$\begin{aligned} \text{upper boundary} &= \text{Q3} + 1.5 \times \text{IQR} \\ &= 52.67 + 1.5 \times 0.36 \\ &= 53.21 \end{aligned}$$

We determine the outliers.

$$\text{outliers} = \{51.49, 51.6, 53.61\}$$

We identify the ends of the whiskers: 51.98 and 53.12. We plot the boxplot.



2. **Solution**
The sample size, n, is 15. We determine the indeces and values of Q1, Q2, and Q3.

Quartile	Formula for i	i	x
Q1	$\lceil 0.25 \times 15 \rceil$	4	49.19
Q2	$\lceil 0.5 \times 15 \rceil$	8	50.02
Q3	$\lceil 0.75 \times 15 \rceil$	12	53.06

We determine the IQR.

$$\begin{aligned} \text{IQR} &= \text{Q3} - \text{Q1} \\ &= 53.06 - 49.19 \\ &= 3.87 \end{aligned}$$

We determine the outlier boundaries.

$$\begin{aligned} \text{lower boundary} &= \text{Q1} - 1.5 \times \text{IQR} \\ &= 49.19 - 1.5 \times 3.87 \\ &= 43.385 \end{aligned}$$

$$\begin{aligned} \text{upper boundary} &= \text{Q3} + 1.5 \times \text{IQR} \\ &= 53.06 + 1.5 \times 3.87 \\ &= 58.865 \end{aligned}$$

We determine the outliers.

$$\text{outliers} = \{\}$$

We identify the ends of the whiskers: 44.15 and 54.65. We plot the boxplot.