1. Solution

The sample size, *n*, is 24. We determine the indeces and values of Q1, Q2, and Q3.

Quartile	Formula for <i>i</i>	i	X
Q1	$\lceil 0.25 \times 24 \rceil$	6	39.43
Q2	$\lceil 0.5 \times 24 \rceil$	12	40.22
Q3	$\lceil 0.75 \times 24 \rceil$	18	40.87

We determine the IQR.

$$IQR = Q3 - Q1$$

= 40.87 - 39.43
= 1.44

We determine the outlier boundaries.

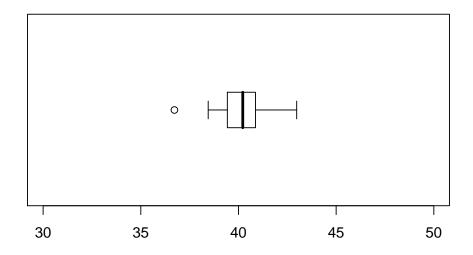
lower boundary = Q1
$$- 1.5 \times IQR$$

= 39.43 $- 1.5 \times 1.44$
= 37.27
upper boundary = Q3 + 1.5 $\times IQR$
= 40.87 + 1.5 $\times 1.44$
= 43.03

We determine the outliers.

outliers =
$$\{36.72\}$$

We identify the ends of the whiskers: 38.45 and 42.98. We plot the boxplot.



2. Solution

The sample size, *n*, is 45. We determine the indeces and values of Q1, Q2, and Q3.

Quartile	Formula for <i>i</i>	i	X
Q1	$\lceil 0.25 imes 45 ceil$	12	25.55
Q2	$\lceil 0.5 \times 45 \rceil$	23	29.57
Q3	$\lceil 0.75 \times 45 \rceil$	34	34.81

We determine the IQR.

$$IQR = Q3 - Q1$$

= 34.81 - 25.55
= 9.26

We determine the outlier boundaries.

lower boundary = Q1
$$- 1.5 \times IQR$$

= $25.55 - 1.5 \times 9.26$
= 11.66
upper boundary = Q3 + $1.5 \times IQR$
= $34.81 + 1.5 \times 9.26$
= 48.7

We determine the outliers.

outliers =
$$\{50.62\}$$

We identify the ends of the whiskers: 20.07 and 47.84. We plot the boxplot.

