Representations of data 3B

1

Marks in a test
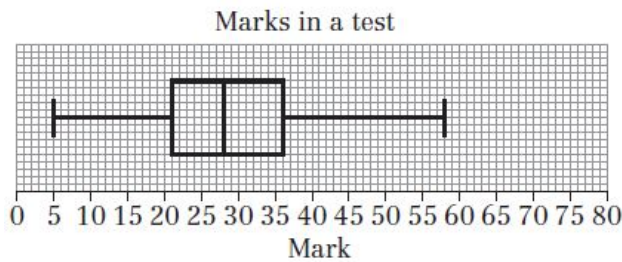
2 a Upper quartile is 47 marks
Lower quartile is 32 marks

    b 38 marks

    c $\text{IQR} = 47 - 32 = 15$ marks

    d Range $= 76 - 12 = 64$ marks

3 a Male turtles have a higher median mass.

      Males have a bigger range (or IQR).

    b It is more likely to be a female. Very few male turtles weigh as little as this, but roughly three-quarters of the female turtles weigh even less.

    c $500 \, \text{g}$ despite this data point being an outlier.

4 a Q$_1$: $\dfrac{25}{4} = 6.25$, so we pick the 7th term: 22

      Q$_2$: $\dfrac{25+1}{2} = 13$, so we pick the 13th term: 26

      Q$_3$: $\dfrac{3}{4} \times 25 = 18.75$, so we pick the 19th term: 30

    b IQR = 30 − 22 = 8
Outliers are values less than $22 - 1.5 \times 8 = 10$ and values greater than $30 + 1.5 \times 8 = 42$.
46 and 78 are both greater than 42, so 46 and 78 are both outliers.

    c

Maximum daily gust in Camborne, September 1987