

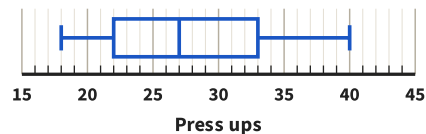
Box Plots *stretch*

ANSWERS

1

The number of press ups 15 members of a club did in one minute. Draw a box plot for the data.

23, 31, 18, 27, 35, 22, 40, 29, 19, 33, 26, 24, 38, 21, 30



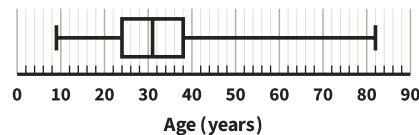
LQ 4th = 22, median 8th = 27

UQ 12th = 33; lowest 18, highest 40

Box plot *18, 22, 27, 33, 40*

2

The box plot shows the ages of the people at a film. Work out the range and the interquartile range. Which one better shows how spread out most of the ages are? Give a reason.



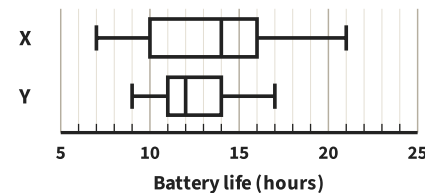
Range 82 - 10 = 73

IQR 38 - 24 = 14

Reason *the IQR: 82 is an extreme age*

3

The box plots show how many hours the batteries of two phones, X and Y, lasted on one charge. Compare the battery life of the two phones. Give two comparisons.



Medians: X 14 h, Y 12 h

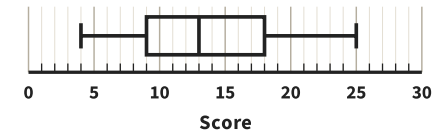
IQRs: X 6 h, Y 3 h

Compare *X longer; Y more consistent*

4

Here are 11 quiz scores in order. Two of them are covered. The box plot shows all 11 scores. Find the two covered scores.

4, 7, 9, 9, 12, 13, 15, 16, 18, 21, 25



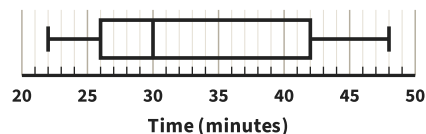
6th value is the median: 13

9th value is the upper quartile: 18

Answer *13 and 18*

5

The box plot shows the times of 40 runners in a 5 km race. Leo says more runners took between 30 and 42 minutes than between 26 and 30 minutes, because that part of the box is longer. Is Leo right? Explain.



40 ÷ 4 = 10 runners in each quarter

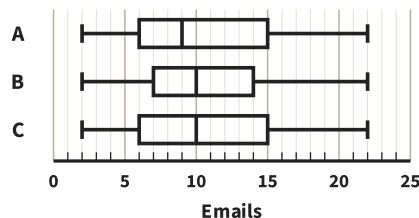
Longer part: times more spread out

Answer *No: about 10 in each part*

6

These are the numbers of emails 11 people sent one day. Which box plot, A, B or C, shows the data? Explain how you know.

2, 5, 6, 8, 9, 10, 12, 13, 15, 17, 22



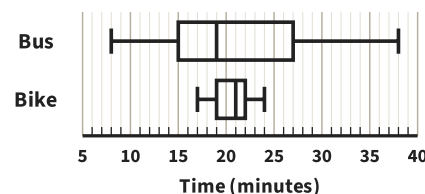
Median = 6th value = 10: not A

LQ 6, UQ 15: not B

Answer *C*

7

Kim times her journey to work by bus and by bike on many days. She must take no more than 25 minutes. Which should she choose? Give a reason from the box plots.



Bike: highest 24 minutes, under 25

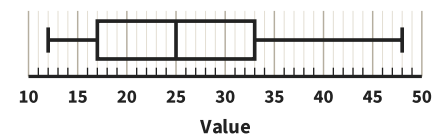
Bus: UQ 27, so a quarter over 25

Answer *the bike*

8

The box plot shows these 11 values. The highest value was typed wrongly: 48 should be 84. Which of the median, the interquartile range and the range change? Explain.

12, 15, 17, 20, 22, 25, 27, 30, 33, 36, 48



Median, LQ, UQ: 6th, 3rd, 9th values

still 25, 17 and 33

Answer *only the range: 36 to 72*