Box Plots (H)

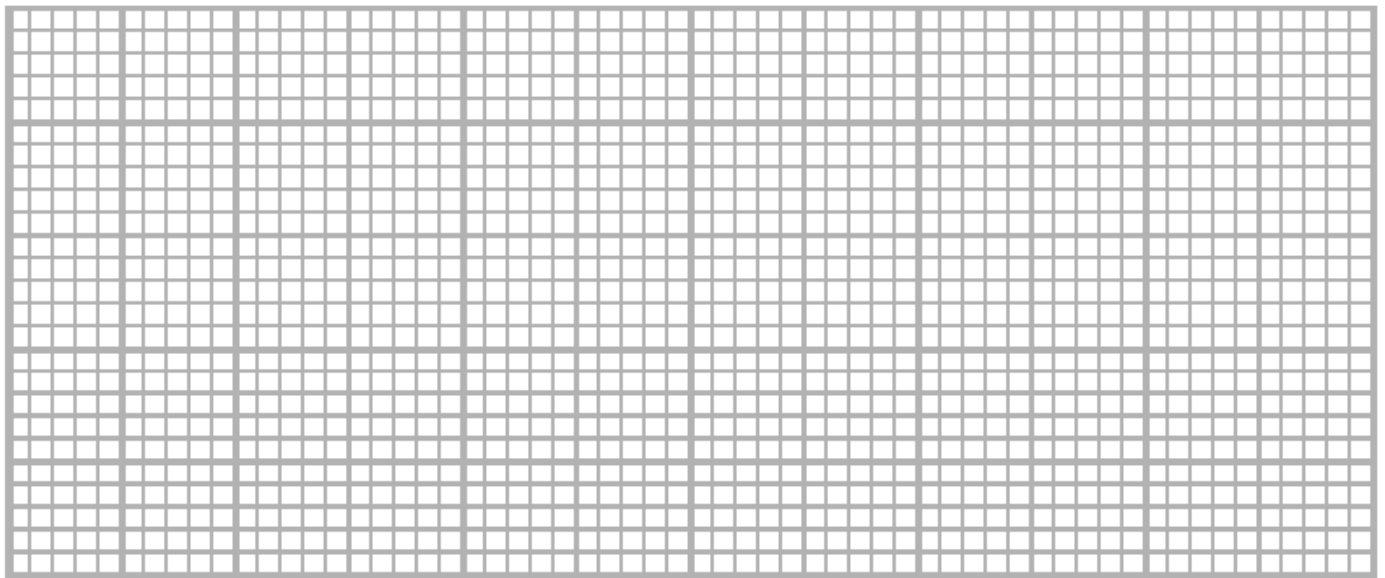| Name:	
Total Marks:	

1. Ben played 15 games of basketball.

   Here are the points he scored in each game.

   17   18   18   18   19   20   20   22   23   23   23   26   27   28   28

(a) Draw a box plot for this information.

[3]

Sam plays in the same 15 games of basketball.

The median number of points Sam scored is 23
The interquartile range of these points is 12
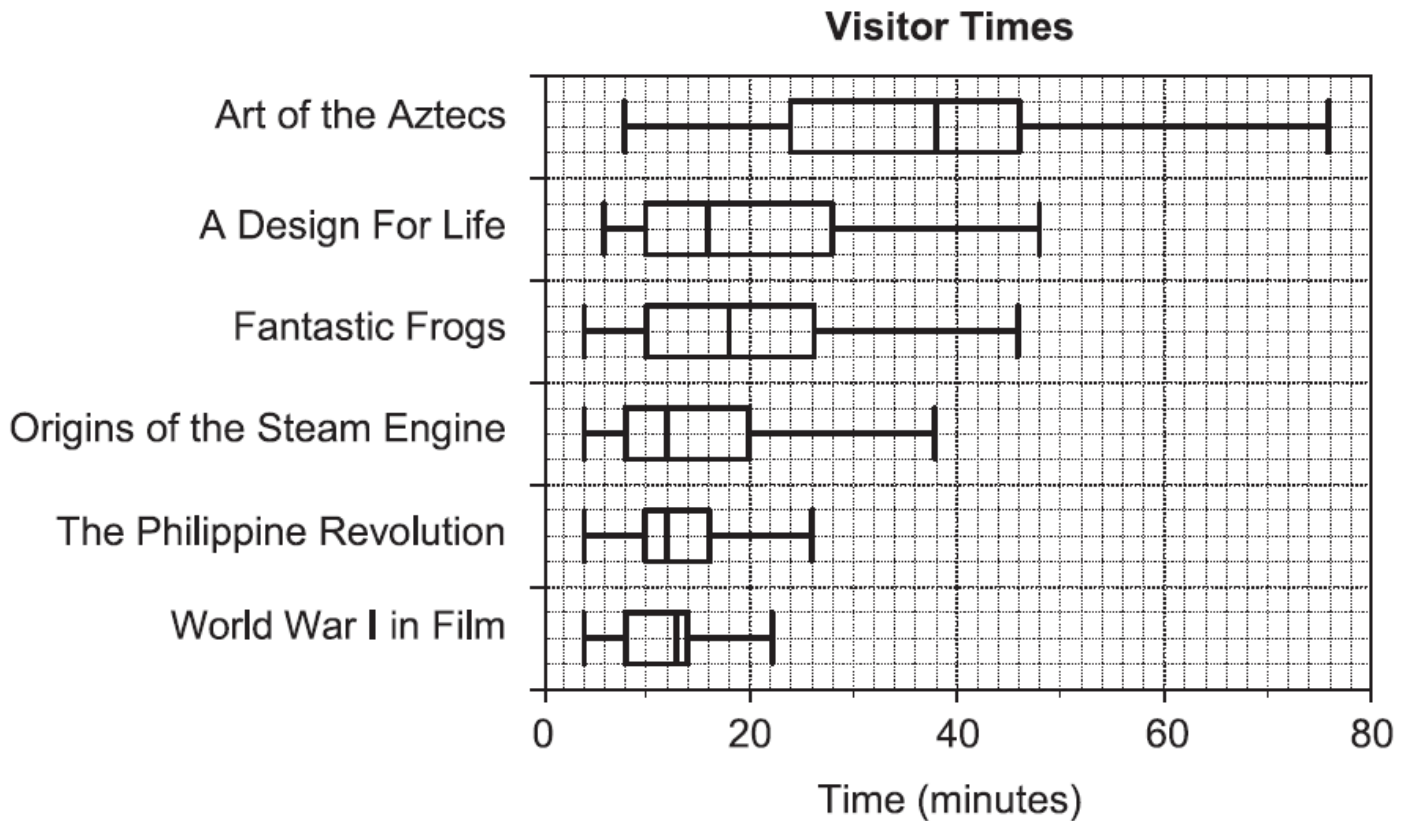The range of these points is 20

(b) Who is more consistent at scoring points, Sam or Ben?

You must give a reason for your answer.

[2]

2. One day a museum monitored the time spent by visitors at six exhibitions.

The visitor times are summarised in the box plots below.

Visitor Times

a) Work out the range in visitor times at the Fantastic Frogs exhibition.

a) .... [2]

b) At which exhibition were visitor times the most consistent?

Give a reason for your answer.

[2]

c) Give one similarity and one difference between the distributions of the visitor times for **Origins of the Steam Engine** and **The Philippine Revolution**.

Similarity

Difference

[2]

d) Is it possible to work out from the box plots which exhibition had the most visitors?

Justify your answer.
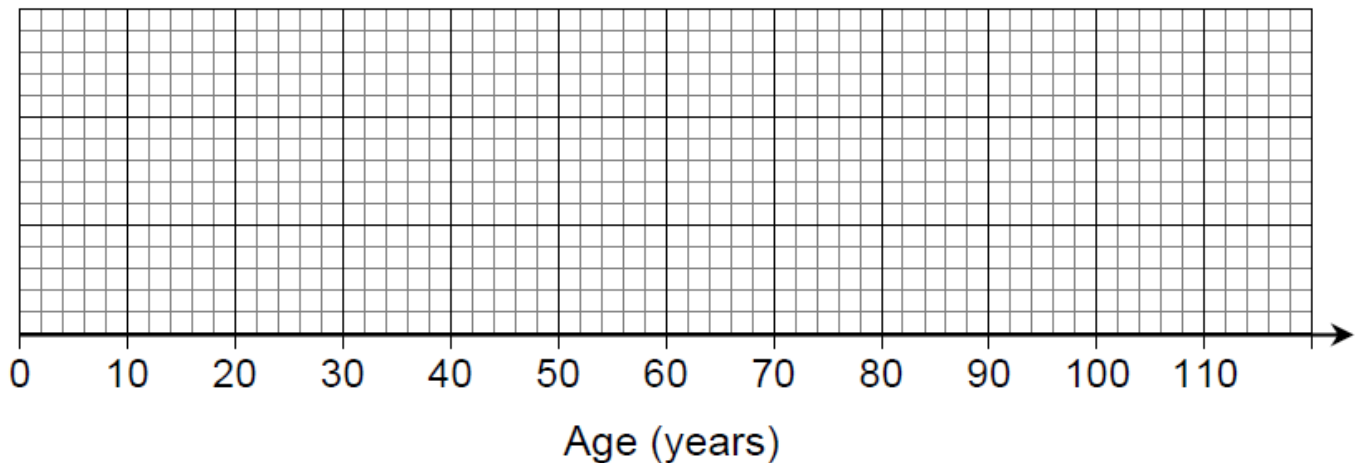
[2]

3. In the UK in 2000

25% of the population were under 24 years old

50% of the population were under 37 years old

the inter-quartile range of the ages was 32 years

the oldest person was 107 years old.

a) Show the information on a box plot.

Age (years)

[3]

b) It is predicted that in 2050 the age distribution in the UK will have

lower quartile 26 years
median 44 years
upper quartile 66 years

Make two comments about the predicted change in the age distribution in the UK from 2000 to 2050

Comment 1

Comment 2

[2]

CREDITS AND NOTES

Question	Awarding Body
1	Pearson Edexcel
2	OCR
3	AQA

Notes:

These questions have been retyped from the original sample/specimen assessment materials and whilst every effort has been made to ensure there are no errors, any that do appear are mine and not the exam board s (similarly any errors I have corrected from the originals are also my corrections and not theirs!).

Please also note that the layout in terms of fonts, answer lines and space given to each question does not reflect the actual papers to save space.

These questions have been collated by me as the basis for a GCSE working party set up by the GLOW maths hub - if you want to get involved please get in touch. The objective is to provide support to fellow teachers and to give you a flavour of how different topics "could" be examined. They should not be used to form a decision as to which board to use. There is no guarantee that a topic will or won't appear in the "live" papers from a specific exam board or that examination of a topic will be as shown in these questions.

Links:

AQA http://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300

OCR http://ocr.org.uk/gcsemaths

Pearson Edexcel http://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html

WJEC Eduqas http://www.eduqas.co.uk/qualifications/mathematics/gcse/

Contents:

This version contains questions from:

AQA – Sample Assessment Material, Practice set 1 and Practice set 2

OCR – Sample Assessment Material and Practice set 1

Pearson Edexcel – Sample Assessment Material, Specimen set 1 and Specimen set 2

WJEC Eduqas – Sample Assessment Material