

Differences between **Pearson Edexcel** and **AQA** GCSE

Below is a summary of the content differences between our qualification at Pearson Edexcel and AQA GCSE 9-1 Mathematics. Included as an appendix are example questions and further specification details.

Additional Content This content is included in our Mathematics GCSE, you may need to update your schemes of learning to include these.

Stem & Leaf Diagrams

Students are expected to be able to draw and extract information, such as the median, from stem and leaf diagrams on both Higher and Foundation Tier. When drawing stem and leaf diagrams, it is expected that they will be “ordered” stem and leaf diagrams (this requirement may not be explicitly mentioned in the exam question).

Frequency Polygons

Students are expected to be able to draw and extract information from frequency polygons on both Higher and Foundation Tier.

Capture – Recapture

The Peterson capture – recapture method is expected at Higher Tier.

Variation in Content Below shows topics where the content may include additional items or variations.

Scatter Graphs

Correlation only needs to be described as positive or negative. No further elaboration i.e. “Weak” or “Strong” is required.

Compass Point Bearings

Students are expected to have knowledge of four (not eight) compass point bearings.

Rationalising the Denominator

Students could be asked to rationalise the denominator of a fraction which involves differences of two square at Higher Tier.

General notes

Answers in their Simplest Form

Exam questions include instructions where the simplest form is required. Where there is no instruction to do so students are not penalised for not simplifying their answers.

Additional Content:

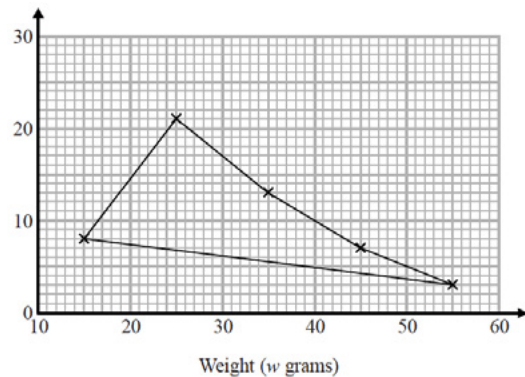
Frequency Polygons

November 19 (Foundation and Higher Paper 2)

21 The table shows some information about the weights of 50 potatoes.

| Weight (w grams) | Frequency |
|---------------------|-----------|
| $10 < w \leq 20$ | 6 |
| $20 < w \leq 30$ | 21 |
| $30 < w \leq 40$ | 13 |
| $40 < w \leq 50$ | 7 |
| $50 < w \leq 60$ | 3 |

Iveta drew this frequency polygon for the information in the table. The frequency polygon is **not** fully correct.



Write down **two** things that are wrong with the frequency polygon.

-
-

(Total for Question 21 is 2 marks)

June 19 (Foundation and Higher Paper 3)

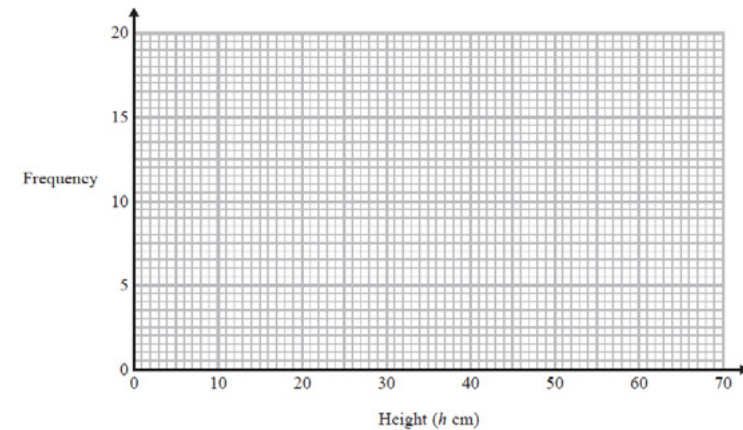
26 The table shows information about the heights of 80 plants.

| Height (h cm) | Frequency |
|------------------|-----------|
| $10 < h \leq 20$ | 7 |
| $20 < h \leq 30$ | 13 |
| $30 < h \leq 40$ | 14 |
| $40 < h \leq 50$ | 12 |
| $50 < h \leq 60$ | 16 |
| $60 < h \leq 70$ | 18 |

(a) Find the class interval that contains the median.

..... (1)

(b) On the grid, draw a frequency polygon for the information in the table.



(2)

(Total for Question 26 is 3 marks)

Appendix 1 – Example Assessment Items *continued*

Additional Content:

Capture – Recapture

June 22 (Higher Paper 2)

- 14** Saffron wants to work out an estimate for the total number of fish in a lake.
- On Friday, Saffron catches 180 fish from the lake.
She puts a tag on each of these fish and puts them back into the lake.
- On Saturday, Saffron catches 305 fish from the same lake.
She finds that 45 of the 305 fish are tagged.
- Work out an estimate for the total number of fish in the lake.

.....
(Total for Question 14 is 3 marks)

November 22 (Higher Paper 2)

- 15** Faiza is studying the population of rabbits in a park.
She wants to estimate the number of rabbits in the park.
- On Monday she catches a random sample of 20 rabbits in the park, marks each rabbit with a tag and releases them back into the park.
- On Tuesday she catches a random sample of 42 rabbits in the park.
12 of the rabbits are marked with a tag.
- (a) Find an estimate for the number of rabbits in the park.

.....
(3)

- Albie is studying the population of rabbits in a wood.
One day, he catches 55 rabbits and finds that 40 of these rabbits are marked with a tag.
Albie estimates there are 50 rabbits in the wood.
- (b) Explain why Albie's estimate cannot be correct.

.....
(1)

(Total for Question 15 is 4 marks)

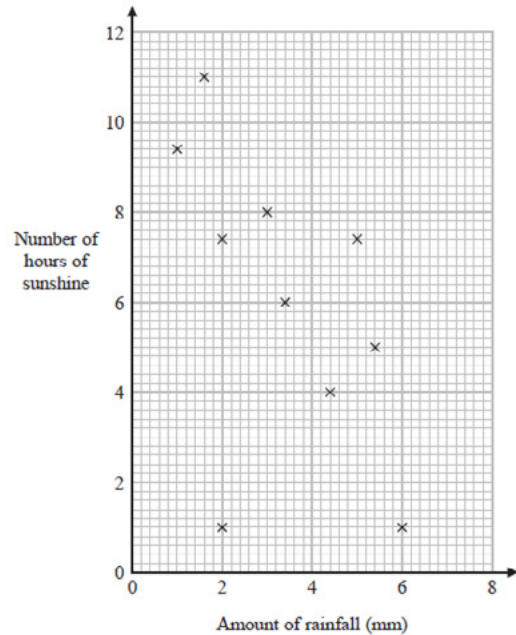
Appendix 1 – Example Assessment Items *continued*

Variation in Content:

Scatter Graphs

November 22 (Foundation and Higher Paper 2)

- 18 The scatter graph shows information about the amount of rainfall, in mm, and the number of hours of sunshine for each of ten English towns on the same day.



One of the points is an outlier.

- (a) Write down the coordinates of this point.

(..... ,)
(1)

- (b) Ignoring the outlier, describe the relationship between the amount of rainfall and the number of hours of sunshine.

.....
.....
.....

(1)

On the same day in another English town there were 7 hours of sunshine.

- (c) Using the scatter graph, estimate the amount of rainfall in this town on this day.

..... mm
(2)

(Total for Question 18 is 4 marks)

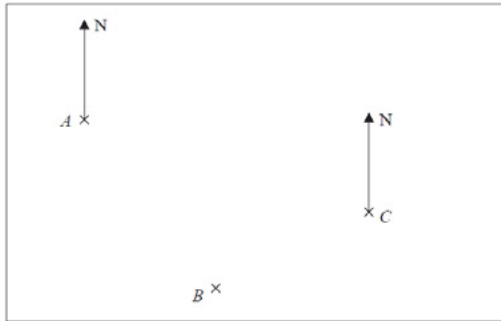
Appendix 1 – Example Assessment Items *continued*

Variation in Content:

Compass Point Bearings *(To date there have been no questions that require use of North, South, East or West unless part of a Bearings question)*

June 22 (Foundation Paper 3)

13 The accurately drawn map shows the positions of three points, A , B and C , in a field.



Scale: 1 cm represents 150 metres

Parveen walks in a straight line from A to B .
She then walks in a straight line from B to C .

Susan walks in a straight line from A to C .

Parveen walks more metres than Susan.

(a) How many more?

..... metres
(3)

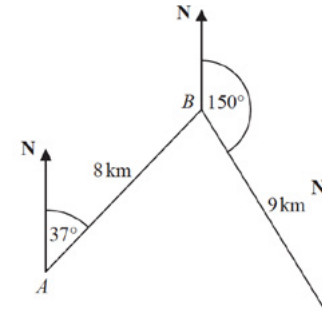
(b) Find by measurement the bearing of A from C .

.....°
(1)

(Total for Question 13 is 4 marks)

June 19 (Higher Paper 3)

23 The diagram shows the positions of three towns, Acton (A), Barston (B) and Chorlton (C).



Barston is 8 km from Acton on a bearing of 037°
Chorlton is 9 km from Barston on a bearing of 150°

Find the bearing of Chorlton from Acton.
Give your answer correct to 1 decimal place.
You must show all your working.

.....°
(Total for Question 23 is 5 marks)

Appendix 1 – Example Assessment Items *continued*

Variation in Content:

Rationalising the Denominator

November 21 (Higher Paper 1)

- 19 Show that $\frac{8+\sqrt{12}}{5+\sqrt{3}}$ can be written in the form $\frac{a+\sqrt{3}}{b}$, where a and b are integers.

(Total for Question 19 is 4 marks)

November 20 (Higher Paper 1)

- 20 Show that $\frac{\sqrt{180}-2\sqrt{5}}{5\sqrt{5}-5}$ can be written in the form $a + \frac{\sqrt{5}}{b}$ where a and b are integers.

(Total for Question 20 is 4 marks)

General notes:

Answers in their Simplest Form

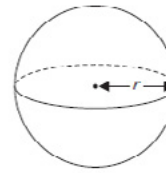
June 22 (Foundation Paper 3)

- 12 Write 60 metres as a fraction of 1000 metres.
Give your answer in its simplest form.

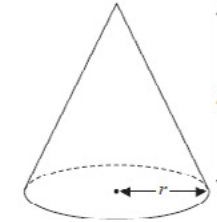
.....
(Total for Question 12 is 2 marks)

November 22 (Higher Paper 1)

- 24 Here is a solid sphere and a solid cone.



$$\text{Volume of sphere} = \frac{4}{3} \pi r^3$$



$$\text{Volume of conc} = \frac{1}{3} \pi r^2 h$$

All measurements are in cm.

The volume of the sphere is equal to the volume of the cone.

- (a) Find $r : h$
Give your answer in its simplest form.

.....
(2)

Appendix 2 – Additional Specification Information

Additional Content:

Stem and Leaf Diagrams and Frequency Polygons (STATISTICS S2)

| DfE Content Statement | Pearson Content Guidance | AQA Specification Notes | Observations of any differences |
|---|--|--|--|
| Interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data, vertical line charts for ungrouped discrete numerical data, tables and line graphs for time series data and know their appropriate use. | To include stem and leaf diagrams. Candidates will be expected to be able to draw a time series graph by plotting points from given information and take readings from time series graphs provided. Moving averages will not be tested and neither will average seasonal trends. Questions could be set on the general trend, however. | Notes: including choosing suitable statistical diagrams. | Stem and leaf diagrams and frequency polygons are expected by us; no mention by AQA. |

Capture – Recapture (STATISTICS S1)

| DfE Content Statement | Pearson Content Guidance | AQA Specification Notes | Observations of any differences |
|--|---|-------------------------|---|
| Infer properties of populations or distributions from a sample, whilst knowing the limitations of sampling. | Questions concerning questionnaires will no longer be set. To include the calculation of summary statistics from a sample, knowing that these are estimates for the population. Stratified sampling is not part of the GCSE 9–1 specification. However, the ability to infer properties of populations or distributions from a sample is part of the specification so candidates could be asked questions relating to this. At Higher tier, to include the Peterson capture – recapture method. | | Our specification states that Peterson capture – recapture method is expected at Higher Tier. |

Appendix 2 – Additional Specification Information *continued*

Variations to Content:

Scatter Graphs (STATISTICS S6)

| DfE Content Statement | Pearson Content Guidance | AQA Specification Notes | Observations of any differences |
|---|--------------------------|--|--|
| Use and interpret scatter graphs of bivariate data; recognise correlation and know that it does not indicate causation; draw estimated lines of best fit; make predictions; interpolate and extrapolate apparent trends whilst knowing the dangers of so doing. | | Notes: students should know and understand the terms: positive correlation, negative correlation, no correlation, weak correlation and strong correlation. | Use of 'weak' and 'strong' correlation expected by AQA, not by us. |

Compass Point Bearings (GEOMETRY G15)

| DfE Content Statement | Pearson Content Guidance | AQA Specification Notes | Observations of any differences |
|---|--------------------------|--|---|
| G15 measure line segments and angles in geometric figures, including interpreting maps and scale drawings and use of bearings. | | Notes: including the eight compass point bearings and three-figure bearings. | AQA specifies knowledge of eight compass point bearings (not explicitly stated for us – would expect four compass bearings only). |

Rationalising the Denominator (NUMBER N8)

| DfE Content Statement | Pearson Content Guidance | AQA Specification Notes | Observations of any differences |
|--|--|-------------------------|--|
| Calculate exactly with fractions, surds and multiples of π ; simplify surd expressions involving squares (e.g. $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$ and rationalise denominators. | Candidates could be asked to rationalise the denominator of any fraction which may involve utilising the difference of two squares. For example, $\frac{\sqrt{2}}{\sqrt{2}+1}$ | | We specifically mention rationalisation of a fraction which may involve utilising the difference of two squares, for example, $\frac{\sqrt{2}}{\sqrt{2}+1}$. No specific mention of this in the AQA specification or teaching objectives; seems to be limited to fractions of the form \sqrt{a} or $b\sqrt{a}$. |

Appendix 2 – Additional Specification Information *continued*

General notes:

Answers in their Simplest Form (ALGEBRA A1)

| DfE Content Statement | Pearson Content Guidance | AQA Specification Notes | Observations of any differences |
|--|--------------------------|--|--|
| <p>Use and interpret algebraic notation, including:</p> <p>ab in place of $a \times b$</p> <p>$3y$ in place of $y + y + y$ and $3 \times y$</p> <p>a^2 in place of $a \times a$</p> <p>a^3 in place of $a \times a \times a$,</p> <p>a^2b in place of $a \times a \times b$</p> <p>$\frac{a}{b}$ in place of $a \div b$</p> <p>coefficients written as fractions rather than as decimals.</p> | | <p>Notes: it is expected that answers will be given in their simplest form without an explicit instruction to do so.</p> | <p>AQA point out that it is expected that answers will be given in their simplest form without an explicit instruction to do so – not true in our specification.</p> |