# 2021: Variation in centres' National 5, Higher and Advanced Higher attainment rates 

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## About this report

Recent years have seen unprecedented levels of changes in the national outcomes in graded National Qualifications overall.

This report looks at results from recent years in terms of the impact on centre outcomes, focusing on year-on-year centre variability. It summarises the distribution of centre-level changes in grade A and grades A to C outcomes for English at National 5 and Higher and for mathematics at National 5, Higher and Advanced Higher, for each pair of consecutive years in the period 2017 to 2021, and also for changes in 2021 compared to 2019.

English and mathematics were chosen as they are the two highest entry subjects at National 5, Higher and Advanced Higher in each year in the analyses and are therefore most likely to have sufficient numbers of centres that consistently have a large enough cohort size, ie more than 20 entries per centre per year, to enable meaningful conclusions to be drawn at each qualification level. To make comparisons fair we used the same sets of centres for each qualification across all years (2017 to 2021). There were too few centres (less than 5) which passed this entry threshold for Advanced Higher English to make the analysis meaningful so it is not included.

Centres with smaller cohorts are likely to experience greater natural year-on-year variability in outcomes. To avoid unrepresentative extreme values due to small cohort sizes from those centres, the analyses are restricted to centres with at least 20 entries in all years analysed (2017 to 2021) at the given qualification level for the relevant subject.

Different awarding approaches were adopted in 2020 and 2021 relative to the approaches used in prior years due to the COVID-19 pandemic. Accordingly, when reviewing these analyses, full consideration should be given to these different approaches.

## Key highlights from the analyses

## Year-on-year changes in centres' grade A outcomes

- For English in 2020, at each qualification level, there was a median year-on-year increase in centres' grade A outcomes, followed by a further increase in 2021.
- For mathematics in 2020, at each qualification level, there was a median year-on-year increase in centres' grade A outcomes for mathematics, followed by a further increase in 2021.
- For English in 2019, at each qualification level, there was a median year-on-year decrease in centres' grade A outcomes.
- For mathematics in 2019, at each qualification level, there was a median year-on-year decrease in centres' grade A outcomes.


## Year-on-year changes in centres' outcomes at grades A to C

- For English in 2020, at each qualification level, there was a median year-on-year increase in centres' outcomes at grades A to C.
- For English in 2021, the median year-on-year increase in centres' outcomes at grades A to C in 2020 was followed by slightly different patterns for different levels; namely a decrease in outcomes at grades A to C for National 5 and a further increase at Higher.
- For mathematics in 2020, at each qualification level, there was a median year-on-year increase in centres' outcomes at grades A to C.
- For mathematics in 2021, the median year-on-year increase in centres' outcomes at grades A to C in 2020 was followed by a decrease in outcomes at grades A to C for National 5, a decrease at Higher, and an increase at Advanced Higher.


## Introduction

The subsequent sections of this report analyse and report the distribution of year-on-year changes across centres in grade A and grades A to C outcomes in English (at National 5 and Higher) and mathematics (at National 5, Higher and Advanced Higher), for each pair of consecutive years in the period 2017 to 2021, and in 2021 compared to 2019.

Variability in a centre's outcomes is assessed by determining the percentage point year-on-year change in that centre's outcomes between two years.

For example, if in a given year, $25 \%$ of entries from a centre received an $A$; and in the subsequent year that centre achieved a similar A rate, ie $25 \%$, then there would have been 0 percentage point year-on-year change in grade A outcomes for that centre. This would be interpreted as no variability in outcomes.

However, if after having an A rate of $25 \%$ in a given year, the centre's A rate is $35 \%$ in the subsequent year, the year-on-year change would be 10 percentage points, which indicates a higher level of variability than the scenario above.

The analyses in this report also seek to summarise overall variability across centres using the median year-on-year percentage point change across all qualifying centres. In simple terms, the median is the year-on-year percentage point change below which half of centres in the sample sit, and above which the remaining half of the centres sit. The median therefore provides a measure of the 'central' year-on-year change across all centres included in the analysis.

The distribution of centres' year-on-year changes and the median change across all centres, are visually summarised in this report using boxplots.

A generic schematic of boxplots typically used in this analysis is provided in Figure 1 below.


Figure 1: Schematic describing statistics which summarise a distribution and which are presented in a boxplot

As highlighted in Figure 1, a boxplot summarises five key features of a distribution; namely:

- Minimum: The lowest change in year-on-year outcomes across centres excluding outliers.
- Maximum: The highest change in year-on-year outcomes across centres excluding outliers.
- Interquartile Range (IQR): The range of values of the middle $50 \%$ of year-on-year changes.
- IQR lower: The bottom/lowest value in the IQR.
- IQR upper: The top/highest value in the IQR.
- Median: The middle value in the dataset. $50 \%$ of centres are above the median and $50 \%$ of centres fall below the median.

Boxplots display everal key pieces of information. Some of these are summarised below.

- The width of the interquartile range (IQR) provides a measure of the spread in year-on-year changes across centres. A wider IQR would suggest more differential patterns of changes between centres, while a narrow IQR would suggest more consistency between centres in how results have changed.
- The position of the median line within the IQR indicates how high or low values are distributed either side of the median:
- a median line closer to the lower IQR boundary of the IQR than to the upper boundary may indicate that there is a greater concentration of centres with year-on-year changes on the lower side of the median than on the upper side;
- Where the median line is closer to the upper boundary of the IQR upper than to the lower boundary, this indicates that there is a greater concentration of centres with year-on-year changes on the upper side of the median than on the lower side.
- The lengths of the opposing 'whiskers' provide an indication of the balance or imbalance of 'low' year-on-year changes and 'high' year-on-year changes in the dataset.
- Where the left whisker is noticeably longer than the right whisker, that indicates negative skew, ie there are more 'low' year-on-year changes than 'high' year-onyear changes in the dataset;
- Where the right whisker is noticeably longer than the left whisker, that indicates a positive skew, ie there are more 'high' year-on-year changes than 'low' year-onyear changes in the dataset.


## Centre Variation - National 5 English

The distribution of year-on-year changes in centres' grade A and grades A to C outcomes for National 5 English is summarised in Figure 2.


Figure 2: Distribution of year-on-year changes in outcomes at a) grade $A$ and b) grades $A$ to $C$ for individual centres in National 5 English for the period 2017 to 2021. The vertical line at 0\% represents no change compared to the previous year. Further information about what this type of plot shows is given in Figure 1 and the introduction.

Table 1 provides a detailed summary of centre variation in grade $A$ and grades $A$ to $C$ attainment in National 5 English, for consecutive pairs of years between 2017 and 2021, and for 2021 vs. 2019.

Table 1: Summary of year-on-year centre-level changes in grade A and grades A to C attainment for National 5 English. SD is an abbreviation for the standard deviation. IQR is the interquartile range; this statistic is explained in the introduction.

| Grade | Year | Number of centres | Mean | SD | IQR lower | Median | IQR upper |
| :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: |
| A | $2021-2019$ | 354 | 12.1 | 10.4 | 5.9 | 11.4 | 18.8 |
| A | $2021-2020$ | 354 | 7.8 | 10.3 | 2.1 | 7.7 | 14.1 |
| A | $2020-2019$ | 354 | 4.3 | 7.8 | -0.9 | 3.7 | 9.4 |
| A | $2019-2018$ | 354 | -0.3 | 8.4 | -5.2 | -0.6 | 5.0 |
| A | $2018-2017$ | 354 | -1.2 | 8.9 | -7.4 | -1.0 | 3.9 |
| A to C | $2021-2019$ | 354 | 4.4 | 8.0 | -0.1 | 3.4 | 9.0 |
| A to C | $2021-2020$ | 354 | -0.4 | 6.9 | -4.2 | -0.1 | 3.1 |
| A to C | $2020-2019$ | 354 | 4.8 | 7.1 | 0.4 | 3.9 | 8.1 |
| A to C | $2019-2018$ | 354 | 1.8 | 7.5 | -2.2 | 1.4 | 5.9 |
| A to C | $2018-2017$ | 354 | -2.7 | 7.2 | -6.3 | -2.2 | 1.5 |

## National 5 English - variation in grade A outcomes

In 2021, centres typically saw a year-on-year increase in grade A outcomes for National 5 English, with a median increase of 7.7 percentage points compared to 2020.

Of the 354 centres with 20 or more entries for National 5 English in all the years analysed, 266 centres' grade A outcomes increased by at least 2 percentage points. 52 centres' grade A outcomes decreased by at least 2 percentage points, while 36 centres were within -2.0 and +2.0 percentage points of their 2020 outcomes.

The increases in centres' grade A outcomes typically seen in 2021 followed year-on-year increases on average in 2020, when there was a median change of 3.7 percentage points in centre-level grade A outcomes compared to 2019. Centres' grade A outcomes increased by at least 2 percentage points in 214 between 2019 and 220.65 centres' grade A outcomes decreased by at least 2 percentage points, while the 2020 grade A outcomes for 75 centres were within -2.0 and +2.0 percentage points of their 2019 outcomes.

The increases in centres' grade A outcomes for National 5 English in 2021 and 2020, contrast with the changes observed in 2019 and 2018.In 2019, for example, the median year-on-year change in centres' National 5 English grade A outcomes was -0.6 percentage points compared to 2018. This followed a median change of -1 percentage point in 2018 compared to 2017.

## National 5 English - variation in outcomes at grades A to C

In 2021 the median year-on-year change in centre-level outcomes at grades A to C for National 5 English was -0.1 percentage points compared to 2020.

Of the 354 centres with 20 or more entries for National 5 English in all years analysed, 110 centres' outcomes at grades A to C increased by at least 2 percentage points over the two years. 128 centres' outcomes at grades $A$ to $C$ decreased by at least 2 percentage points, while 116 centres were within -2 and +2 percentage points of their 2020 outcomes.

The median change across centres in outcomes at grades A to C in 2020 was 3.9 percentage points. Increases in the proportion of candidates attaining grades $A$ to $C$ by centre were more pronounced in the year-on-year changes from 2019 to 2020 than from 2020 to 2021. 218 centres saw an increase in outcomes at grades $A$ to $C$ of at least 2 percentage points. 36 saw their outcomes at grades A to $C$ decrease by at least 2 percentage points, while 100 centres were within -2 and +2 percentage points of their 2019 outcomes.

In 2019, the median change in centres' outcomes at grades A to C for National 5 English compared to 2018 was 1.4 percentage points In 2018, the median year-on-year centre-level change was -2.2 percentage points compared to 2017.

## Centre Variation - National 5 mathematics

Figure 3 shows the distribution of year-on-year changes in centres' grade A and grades A to C outcomes for National 5 mathematics.


Figure 3: Distribution of year-on-year changes in outcomes at a) grade $A$ and b) grades $A$ to $C$ for individual centres in National 5 mathematics for the period 2017 to 2021. The vertical line at $0 \%$ represents no change compared to the previous year. Further information about what this type of plot shows is given in Figure 1 and the introduction.

Table 2 provides a detailed summary of centre variation in grade A and grades A to C attainment in National 5 mathematics, for consecutive pairs of years between 2017 and 2021, and for 2021 vs. 2019.

Table 2: Summary of year-on-year centre-level changes in grade $A$ and grades $A$ to $C$ attainment for National 5 Mathematics. SD is an abbreviation for the standard deviation. IQR is the interquartile range; this statistic is explained in the introduction.

| Grade | Year | Number of centres | Mean | SD | IQR lower | Median | IQR upper |
| :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: |
| A | $2021-2019$ | 349 | 6.6 | 11.9 | -0.4 | 6.0 | 14.2 |
| A | $2021-2020$ | 349 | 0.9 | 11.2 | -6.6 | 0.7 | 7.7 |
| A | $2020-2019$ | 349 | 5.7 | 8.8 | 0.7 | 5.3 | 10.5 |
| A | $2019-2018$ | 349 | -0.9 | 8.8 | -6.3 | -1.1 | 4.6 |
| A | $2018-2017$ | 349 | 0.3 | 9.7 | -5.5 | -0.4 | 6.5 |
| A to C | $2021-2019$ | 349 | 8.1 | 16.7 | -3.0 | 6.5 | 17.3 |
| A to C | $2021-2020$ | 349 | -6.0 | 14.2 | -14.9 | -5.9 | 2.1 |
| A to C | $2020-2019$ | 349 | 14.1 | 12.0 | 6.2 | 12.7 | 20.9 |
| A to C | $2019-2018$ | 349 | 0.6 | 10.9 | -6.4 | 0.8 | 6.9 |
| A to C | $2018-2017$ | 349 | 0.7 | 12.2 | -6.1 | 0.9 | 7.3 |

## National 5 mathematics - variation in grade A outcomes

In 2021 the median year-on-year change from 2020 in centres' grade A outcomes for National 5 mathematics was 0.7 percentage points.

Of the 349 centres with 20 or more entries for National 5 mathematics in all years analysed, 152 centres' grade A outcomes increased by at least 2 percentage points. 134 centres grade A outcomes decreased by at least 2 percentage points, while 63 centres were within -2 and +2 percentage points of their 2020 outcomes.

The small increase in the median in 2021 followed a year-on-year median change of 5.3 percentage points in National 5 mathematics grade A outcomes across centres in 2020 compared to 2019. 234 centres' grade A outcomes increased by at least 2 percentage points in 2020. 48 centres' grade A outcomes decreased by at least 2 percentage points, while 67 centres' 2020 National 5 mathematics grade A outcomes were within -2 and +2 percentage points of their 2019 outcomes.

There was less variability in centres' National 5 mathematics grade A outcomes in the years immediately prior to the COVID-19 pandemic. In 2019, the median year-on-year change in centres' grade A outcomes for National 5 mathematics from 2018 was -1.1 percentage points. In 2018, the median change was -0.4 percentage points compared to 2017.

## National 5 mathematics - variation in outcomes at grades A to C

In 2021, the median year-on-year change in centres' outcomes at grades A to C for National 5 mathematics was -5.9 percentage points compared to 2020.

Of the 349 centres with 20 or more entries for National 5 mathematics in all years analysed, 89 centres' outcomes at grades A to C increased by at least 2 percentage points from 2020. 204 centres' outcomes at grades A to C decreased by at least 2 percentage points from 2020, while 56 centres were within -2 and +2 percentage points of their 2020 outcomes.

This followed a median year-on-year change of 12.7 percentage points in National 5 mathematics outcomes at grades A to C across centres in 2020 compared to 2019. 303 centres' 2020 outcomes at grades A to C increased by at least 2 percentage points from 2019, 21 centres decreased by at least 2 percentage points, while 25 centres were within -2 and +2 percentage points of their 2019 outcomes.

There was little variability in centres' National 5 mathematics outcomes at grades A to C in the years immediately preceding the COVID-19 pandemic. In 2019, for example, the median year-on-year change in centres' National 5 mathematics outcomes at grades A to C was 0.8 percentage points compared to 2018. In 2018, the median change was 0.9 percentage points compared to 2017.

## Centre variation - Higher English

Figure 4 shows the distribution of centres' year-on-year changes in grade $A$ and grades $A$ to $C$ outcomes for Higher English.


Figure 4: Distribution of year-on-year changes in outcomes at a) grade $A$ and b) grades $A$ to $C$ for individual centres in Higher English for the period 2017 to 2021. The vertical line at 0\% represents no change compared to the previous year. Further information about what this type of plot shows is given in Figure 1 and the introduction.

Table 3 provides a detailed summary of centre variation in grade A and grades A to C attainment in Higher English, for consecutive pairs of years between 2017 and 2021, and for 2021 vs. 2019.

Table 3: Summary of year-on-year centre-level changes in grade A and grades A to C attainment for Higher English. SD is an abbreviation for the standard deviation. IQR is the interquartile range; this statistic is explained in the introduction.

| Grade | Year | Number of centres | Mean | SD | IQR lower | Median | IQR upper |
| :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: |
| A | $2021-2019$ | 344 | 19.7 | 11.4 | 12.3 | 19.6 | 27.5 |
| A | $2021-2020$ | 344 | 10.3 | 10.5 | 3.8 | 9.7 | 17.3 |
| A | $2020-2019$ | 344 | 9.4 | 8.7 | 3.6 | 9.1 | 13.7 |
| A | $2019-2018$ | 344 | -0.7 | 7.3 | -5.5 | -0.9 | 3.5 |
| A | $2018-2017$ | 344 | -1.3 | 8.4 | -6.7 | -0.7 | 4.5 |
| A to C | $2021-2019$ | 344 | 15.4 | 11.3 | 7.5 | 13.7 | 22.5 |
| A to C | $2021-2020$ | 344 | 0.6 | 7.8 | -3.8 | 0.6 | 4.9 |
| A to C | $2020-2019$ | 344 | 14.7 | 10.2 | 7.2 | 12.8 | 20.9 |
| A to C | $2019-2018$ | 344 | -2.7 | 9.4 | -8.1 | -2.4 | 2.4 |
| A to C | $2018-2017$ | 344 | -1.6 | 9.0 | -8.2 | -1.0 | 3.9 |

## Higher English - variation in centres' grade A outcomes

In 2021, centres typically saw an increase relative to 2020 in grade A outcomes in Higher English, with a median change of 9.7 percentage points across centres over the two years.

Of the 344 centres with 20 or more entries for Higher English in all years analysed, 270 centres' grade A outcomes increased by at least 2 percentage points. 33 centres' grade A outcomes decreased by at least 2 percentage points, while 41 centres were within -2 and +2 percentage points of their 2020 outcomes.

The year-on-year increase in grade A outcomes in 2021 followed increases in 2020, when the median change in centres' Higher English grade A outcomes was 9.1 percentage points from 2019. 280 centres' grade A outcomes increased by at least 2 percentage points, 25 centres decreased by at least 2 percentage points, while 39 centres were within -2 and +2 percentage points of their 2019 outcomes.

The year-on-year changes in 2020 and 2021 were in stark contrast to the changes observed in the years immediately preceding the COVID-19 pandemic. In 2019, for example, the median change in centres' Higher English grade A outcomes was -0.9 percentage points compared to 2018. In 2018, the median year-on-year change was -0.7 percentage points compared to 2017.

## Higher English — variation in centres' outcomes at grades A to C

In 2021 the median change in centres' grades A to C attainment for Higher English was 0.6 percentage points compared to 2020.

Of the 344 centres with 20 or more entries for Higher English in all years analysed, 145 centres saw an increase in outcomes at grades $A$ to $C$ of at least 2 percentage points. 109 centres saw a decrease of at least 2 percentage points, while 90 centres' 2021 outcomes at grades A to C were within -2 and +2 percentage points of their 2020 outcomes.

The year-on-year changes in centres' Higher English outcomes at grades A to C in 2021, followed year-on-year increases in 2020, when there was a median change of 12.8 percentage points from 2019. 319 centres' outcomes at grades A to C increased by at least 2 percentage points from 2019, 3 centres decreased by at least 2 percentage points, while 22 centres were within -2 and +2 percentage points of their 2019 outcomes.

In the years immediately prior to the pandemic, there had been median year-on-year decreases in centres' Higher English outcomes at grades A to C. In 2019, for example, the median change from 2018 in Higher English outcomes at grades A to C across centres was -2.4 percentage points. In 2018, the median change was -1 percentage point compared to 2017.

## Centre variation - Higher mathematics

Figure 5 shows the distribution of centres' year-on-year changes in grade A and grades A to C attainment rates for Higher mathematics.


Figure 5: Distribution of year-on-year changes in outcomes at a) grade $A$ and b) grades $A$ to $C$ for individual centres in Higher mathematics for the period 2017 to 2021. The vertical line at 0\% represents no change compared to the previous year. Further information about what this type of plot shows is given in Figure 1 and the introduction.

Table 4 provides a detailed summary of centre variation in grade A and grades A to C attainment in Higher mathematics, for consecutive pairs of years between 2017 and 2021, and for 2021 vs. 2019.

Table 4: Summary of year-on-year centre-level changes in grade A and grades A to C attainment for Higher Mathematics. SD is an abbreviation for the standard deviation. IQR is the interquartile range; this statistic is explained in the introduction.

| Grade | Year | Number of centres | Mean | SD | IQR lower | Median | IQR upper |
| :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: |
| A | $2021-2019$ | 278 | 15.1 | 13.1 | 6.3 | 14.2 | 24.3 |
| A | $2021-2020$ | 278 | 7.5 | 12.4 | -0.1 | 6.2 | 14.3 |
| A | $2020-2019$ | 278 | 7.6 | 10.6 | 1.0 | 6.8 | 13.9 |
| A | $2019-2018$ | 278 | -0.7 | 10.2 | -7.3 | -0.9 | 5.3 |
| A | $2018-2017$ | 278 | 2.5 | 10.0 | -4.3 | 2.7 | 9.5 |
| A to C | $2021-2019$ | 278 | 8.4 | 14.2 | 0.0 | 7.1 | 16.8 |
| A to C | $2021-2020$ | 278 | -2.5 | 11.7 | -9.0 | -2.3 | 4.2 |
| A to C | $2020-2019$ | 278 | 10.9 | 10.8 | 3.5 | 9.2 | 17.0 |
| A to C | $2019-2018$ | 278 | -2.3 | 11.3 | -9.5 | -2.0 | 4.2 |
| A to C | $2018-2017$ | 278 | 0.8 | 11.2 | -6.0 | 1.1 | 7.7 |

## Higher mathematics - centre variation in grade A outcomes

In 2021, centres typically saw an increase in grade A outcomes for Higher mathematics, with a median change of 6.2 percentage points compared to 2020.

Of the 278 centres with 20 or more entries for Higher mathematics in all years analysed, 191 centres' grade A outcomes increased by at least 2 percentage points. 54 centres' grade A outcomes decreased by at least 2 percentage points, while 33 centres were within -2 and +2 percentage points of their 2020 outcomes.
This followed similar increases in centre-level grade A outcomes in 2020, when there had been a median change of 6.8 percentage points across centres from 2019. 198 centres grade A outcomes increased by at least 2 percentage points, 41 centres decreased by at least 2 percentage points, while 39 centres were within -2 and +2 percentage points of their 2019 outcomes.

There was less variability in centres' Higher mathematics grade A outcomes in the years immediately prior to the Covid-19 pandemic. In 2019, the median year-on-year change in centres' grade A outcomes for Higher mathematics was -0.9 percentage point compared to 2018. In 2018, the median change was 2.7 percentage points compared to 2017.

## Higher mathematics - centre variation in outcomes at grades Ato C

In 2021 the median change in centre-level outcomes at grades A to C for Higher mathematics was -2.3 percentage points compared to 2020.

Of the 278 centres with 20 or more entries for Higher mathematics in all years analysed, 96 centres' outcomes at grades A to C increased by at least 2 percentage points. 143 centres' outcomes at grades $A$ to $C$ decreased by at least 2 percentage points, while 39 centres were within -2 and +2 percentage points of their 2020 outcomes.

The median year-on-year decrease in centres 2021 outcomes at grades $A$ to $C$ followed an increase in 2020, when the median Higher mathematics outcomes at grades A to C across centres changed by 9.2 percentage points compared to 2019. 227 centres' outcomes at grades A to C increased by at least 2 percentage points, 21 centres decreased by at least 2 percentage points, while 30 centres were within -2 and +2 percentage points of their 2019 outcomes.
In the years immediately prior to the pandemic, there was less variability in centres' year-onyear outcomes at grades A to C for Higher mathematics. In 2019, the median change in centrelevel grades A to C rates for Higher mathematics was -2 percentage points compared to 2018. In 2018, the median change was 1.1 percentage point compared to 2017.

## Centre variation - Advanced Higher mathematics

Figure 6 shows the distribution of centres' year-on-year changes in grade $A$ and grades $A$ to $C$ outcomes for Advanced Higher mathematics.


Figure 6: Distribution of year-on-year changes in outcomes at a) grade $A$ and b) grades $A$ to $C$ for individual centres in Advanced Higher mathematics for the period 2017 to 2021. The vertical line at $0 \%$ represents no change compared to the previous year. Further information about what this type of plot shows is given in Figure 1 and the introduction.

Table 5 provides a detailed summary of centre variation in grade A and grades A to C attainment in Advanced Higher mathematics, for consecutive pairs of years between 2017 and 2021, and for 2021 vs. 2019.

Table 5: Summary of year-on-year centre-level changes in grade $A$ and grades $A$ to $C$ attainment for Advanced Higher Mathematics. SD is an abbreviation for the standard deviation. $I Q R$ is the interquartile range; this statistic is explained in the introduction.

| Grade | Year | Number of centres | Mean | SD | IQR lower | Median | IQR upper |
| :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: |
| A | $2021-2019$ | 27 | 20.6 | 11.3 | 14.2 | 21.4 | 28.8 |
| A | $2021-2020$ | 27 | 12.3 | 11.2 | 5.9 | 11.6 | 20.8 |
| A | $2020-2019$ | 27 | 8.3 | 11.2 | -0.4 | 7.3 | 17.3 |
| A | $2019-2018$ | 27 | -2.7 | 15.5 | -9.3 | -3.9 | 6.3 |
| A | $2018-2017$ | 27 | -0.8 | 14.4 | -8.5 | 1.1 | 9.7 |
| A to C | $2021-2019$ | 27 | 6.8 | 9.7 | 1.0 | 7.5 | 12.3 |
| A to C | $2021-2020$ | 27 | 0.6 | 8.4 | -4.3 | 0.4 | 5.6 |
| A to C | $2020-2019$ | 27 | 6.1 | 5.4 | 2.0 | 7.3 | 10.6 |
| A to C | $2019-2018$ | 27 | 2.2 | 10.1 | -3.6 | 0.4 | 9.2 |
| A to C | $2018-2017$ | 27 | 0.7 | 9.6 | -5.3 | 0.5 | 8.2 |

## Advanced Higher mathematics - variation in grade A outcomes

In 2021 the median year-on-year change in centres' grade A outcomes for Advanced Higher mathematics was 11.6 percentage points compared to 2020.

Of the 27 centres with 20 or more entries for Advanced Higher mathematics in all years analysed, 23 centres' grade A outcomes increased by at least 2 percentage points. 2 centres' grade A outcomes decreased by at least 2 percentage points, while 2 centres were within -2 and +2 percentage points of their 2020 outcomes.

There had also been a year-on-year increase in centres' Advanced Higher mathematics grade A outcomes in the preceding year, 2020, when there was a median change of 7.3 percentage points compared to 2019. 16 centres' grade A outcomes increased by at least 2 percentage points, 4 centres decreased by at least 2 percentage points, while 7 centres were within -2 and +2 percentage points of their 2019 outcomes.

The year-on-year changes in 2020 and 2021 were different to trends seen prior to the COVID19 pandemic. In 2019, the median year-on-year change in centres' Advanced Higher mathematics grade A outcomes was -3.9 percentage points compared to 2018. In 2018, the median change was 1.1 percentage points compared to 2017.

## Advanced Higher mathematics - variation in outcomes at grades A to C

In 2021, the median year-on-year change in centres' outcomes at grades A to C for Advanced Higher mathematics was 0.4 percentage point compared to 2020.

Of the 27 centres with 20 or more entries for Advanced Higher mathematics in all years analysed, 13 centres' outcomes at grades $A$ to $C$ increased by at least 2 percentage points, 7 centres decreased by at least 2 percentage points, while 7 centres were within -2 and +2 percentage points of their 2020 outcomes.

This followed a median year-on-year change of 7.3 percentage points in Advanced Higher mathematics outcomes at grades A to C in 2020 from 2019. 20 of these centres' outcomes at grades A to C increased by at least 2 percentage points on 2019, 3 centres decreased by at least 2 percentage points, while 4 centres were within -2 and +2 percentage points of their 2019 outcomes.

In 2019, the median year-on-year change in centres' outcomes at grades A to C for Advanced Higher mathematics was 0.4 percentage points compared to 2018. In 2018, the median year-on-year change was 0.5 percentage points compared to 2017.

