| 1 (a) Simplify $\frac{x-1}{5(x-1)^2}$ | Autumn 2018 Paper 1 Q10 |
|---------------------------------------|-----------------------------------|
| | |
| (b) Factorise fully $50 - 2y^2$ | (1) |
| | |
| | (2) |
| | (Total for Question 1 is 3 marks) |
| | |
| | |

| | | | | <u>Summer 2018 Paper 1 Q17</u> |
|---|----------------|-------------------------------------|---------------------|--------------------------------|
| | | $3r^2 - 8r - 3$ | | |
| 2 | Simplify fully | $\frac{3\lambda - 6\lambda - 3}{2}$ | | |
| | | $2x^2-6x$ | | |
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| Summer | 2020 | Paper | 3 | <i>Q12</i> |
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| | | | | |

3 (a) Express $\frac{x}{x+2} + \frac{2x}{x-4}$ as a single fraction in its simplest form.

(3)

(b) Expand and simplify (x-3)(2x+3)(4x+5)

(3)

(Total for Question 3 is 6 marks)

| Summer | 2017 | Paper | 2 | 019 |
|--------|------|-------|---|-----|
| | | | | |

| 4 | $2 - \frac{x+2}{x-3} - \frac{x-6}{x+3}$ can be written as a single fraction in the f | form $\frac{ax+b}{a}$ |
|---|--|-----------------------|
| - | x-3 $x+3$ | $x^2 - 9$ |
| | where a and b are integers. | |

Work out the value of a and the value of b.

(Total for Question 4 is 4 marks)

| <u>Summer 2019 Paper 2 Q13</u> |
|--------------------------------|
|--------------------------------|

5 Show that $6 + \left[(x+5) \div \frac{x^2 + 3x - 10}{x-1} \right]$ simplifies to $\frac{ax-b}{cx-d}$ where a, b, c and d are integers.

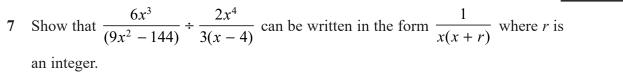
(Total for Question 5 is 4 marks)

| Summer | 2021 | Panar | 1 | OI |
|--------|------|-------|---|-----|
| Summer | 2021 | Paper | 1 | ŲI. |

6 Show that $\frac{4x+3}{2x} + \frac{3}{5}$ can be written in the form $\frac{ax+b}{cx}$ where a, b and c are integers.

(Total for Question 6 is 3 marks)

| Summer | 2021 | Paper | 3 | Q22 |
|--------|------|-------|---|-----|



(Total for Question 7 is 3 marks)

<u>Autumn 2018 Paper 2 Q12</u>

8 (a) Write $\frac{4x^2-9}{6x+9} \times \frac{2x}{x^2-3x}$ in the form $\frac{ax+b}{cx+d}$ where a, b, c and d are integers.

(3)

(b) Express $\frac{3}{x+1} + \frac{1}{x-2} - \frac{4}{x}$ as a single fraction in its simplest form.

(2)

(Total for Question 8 is 6 marks)

| Autumn 2019 Paper 1 Q | 13 |
|-----------------------|----|
|-----------------------|----|

9 (a) Write $\frac{5}{x+1} + \frac{2}{3x}$ as a single fraction in its simplest form.

(2)

(b) Factorise $(x + y)^2 + 3(x + y)$

(1)

(Total for Question 9 is 3 marks)

| Autumn | 2019 | Paner | 3 | O22 |
|--------------|------|--------|---|-----|
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10 Show that $\frac{7x-14}{x^2+4x-12} \div \frac{x-6}{x^3-36x}$ simplifies to ax where a is an integer.

(Total for Question 10 is 4 marks)

| | | _ | _ | |
|--------|------|-------|---|-----|
| Autumn | 2022 | Paper | 3 | Q22 |

| 11 $\frac{2x+3}{x-5} + \frac{x-4}{x+5} - 3$ can be written in the form $\frac{ax+b}{x^2-25}$ where a and b |
|--|
|--|

Work out the value of a and the value of b.

You must show all your working.

(Total for Question 11 is 3 marks)

| Summer | 2022 | Paper | 3 | 019 |
|--------|------|-------|---|-----|
| | | | | |

| 12 | Show that | $\frac{3x}{x+2}$ | $\frac{2x+1}{x-2}-1$ | can be written in the form | $\frac{ax+b}{x^2-4}$ |
|----|--------------|------------------|----------------------|----------------------------|----------------------|
| | where a an | d b are in | ntegers. | | |

(Total for Question 12 is 4 marks)