A2 5.4: I can apply the properties of rational numbers to rational functions (addition/subtraction)

ex $\dfrac{3x-1}{x+1} + \dfrac{2}{3x+1}$

① Check for domain restrictions!

$\dfrac{3x-1}{x+1} + \dfrac{2}{3x+1}$

$x \neq$ $\qquad$ $x \neq$

② multiply each fraction by a clever form of 1 to get a common denominator

$\dfrac{3x+1}{3x+1} \cdot \dfrac{3x-1}{x+1} + \dfrac{2}{3x+1} \cdot \dfrac{\quad}{\quad}$

$= \dfrac{\quad}{3x^2+4x+1} + \dfrac{\quad}{3x^2+4x+1}$

③ Add! Combine like terms. Don't forget to indicate domain restrictions.

$\dfrac{\quad}{3x^2+4x+1}$ $\qquad$ $x \neq$

$x \neq$

A2 5.4: I can apply the properties of rational numbers to rational functions (division edition)

ex $\frac{(x+2)(x+3)}{(x-4)} \div \frac{(x-5)(x+1)}{(x-4)}$

① Check for domain restrictions!

$$\frac{(x+2)(x+3)}{(x-4)} \div \frac{(x-5)(x+1)}{(x-4)}$$

$x \neq$ $\qquad$ $x \neq$

② multiply by reciprocal + check for new domain restrictions!

$$\frac{(x+2)(x+3)}{(x-4)} \cdot \frac{(x-4)}{(x-5)(x+1)}$$

keep $\qquad$ change $\qquad$ flip

old restriction

$= \underline{\qquad\qquad}$

$x \neq$

$x \neq$

new restriction