The trapezium and reverse chain rules

Gold

Using a method of integration, find the exact value of:

$$\int_0^{1.5} 3 + \frac{2x+7}{(x+9)(x-2)}\,dx$$

and leave your answer to 2 decimal places.

Silver

Given that $f(x) = 3 + \frac{2x+7}{(x+9)(x-2)}$

a Copy and complete the following table (leaving your answers to 2 decimal places).

x	0	0.75	1.5
$f(x)$			

b Hence give an approximation, using the trapezium rule, to the area $\int_0^{1.5} 3 + \frac{2x+7}{(x+9)(x-2)}\,dx$.

Bronze

Given that:

$$f(x) = 1 - \frac{4x}{(x+1)(x-2)},\ x \neq -1, x \neq 2$$

copy and complete the following table (leaving your answers to 2 decimal places).

x	0	0.5	1	1.5
$f(x)$				