Question Number	Scheme	Marks
1	Attempts to get t in terms of x or y. E.g. $x=\frac{t}{t-3}\Rightarrow t=\frac{3x}{x-1}$ Forms a Cartesian equation and makes progress to making y the subject E.g. $y=\frac{1}{t}+2\Rightarrow y=\frac{x-1}{3x}+2$ $\Rightarrow y=\frac{7x-1}{3x}$	M1 dM1 A1 **(3)** **(3 marks)**

M1: For an attempt to get t or $\frac{1}{t}$ in terms of x or y.

Condone poor attempts here. It is the intention that is important

dM1: For a complete attempt to form an equation of the form $y=\mathrm{f}(x)$

Look for

- getting t or $\frac{1}{t}$ in terms of x or y
- using this to form a Cartesian equation and makes some progress towards making y the subject.

E.g.I. $x=\frac{t}{t-3}\Rightarrow t=\frac{3x}{x-1}$ **followed by** $y=\frac{1}{t}+2\Rightarrow y=\frac{1}{\frac{3x}{x-1}}+2$

E.g.II. $y=\frac{1}{t}+2\Rightarrow t=\frac{1}{y-2}$ **followed by**

$$x=\frac{\frac{1}{y-2}}{\frac{1}{y-2}-3}\Rightarrow x=\frac{1}{1-3\left(y-2\right)}\Rightarrow\left(7-3y\right)x=1$$

Condone slips, for example in the signs and miscopies/misreads, but the overall mechanics of the attempt should be sound.

In E.g.II. an attempt must be made to make progress towards $y = \mathrm{f}(x)$, so allow for example when an intermediate line such as $\mathrm{g}(y)\times\mathrm{h}(x)=b$ or $\mathrm{g}(y)=\mathrm{h}(x)$ where $\mathrm{g}(y)$ is a linear expression in y

A1: Correct equation $y=\frac{7x-1}{3x}$ but allow $y=\frac{-1+7x}{3x}$

Alt Method:

M1: Substitutes both $y=\frac{1}{t}+2$ and $x=\frac{t}{t-3}$ into $y=\frac{ax-1}{bx}$ and makes progress to a point in which sides can be compared

$$\frac{1}{t}+2=\frac{a\times\frac{t}{t-3}-1}{b\times\frac{t}{t-3}}=\left(\frac{a-1}{b}\right)+\frac{3}{bt}\qquad\text{or}\qquad b+2bt=\left(a-1\right)t+3$$

dM1: Compares terms to set up and solve simultaneous equations in both a and b.

FYI $\frac{3}{b}=1,\frac{a-1}{b}=2$ or $b=3,\quad 2b=a-1$

A1: $y=\frac{7x-1}{3x}$ NOT just for correct values of a and b