Question Number	Scheme	Marks
7 (a)	$x=\frac{3}{2}\quad\left(\text{or eg } 2x=3,\ x-\frac{3}{2}=0\right)$	B1 (1)
(b)	$\frac{dy}{dx}=\frac{(2x-3)(2x)-(x^2-2)(2)}{(2x-3)^2}=\left(\frac{2x^2-6x+4}{(2x-3)^2}\right)$	M1A1A1 (3)
(c)	$\frac{dy}{dx}=0\Rightarrow\frac{(2x-3)(2x)-(x^2-2)(2)}{(2x-3)^2}=0$	M1
	$\Rightarrow 2x^2-6x+4=0\Rightarrow(x-1)(x-2)=0\Rightarrow x=1,x=2$	M1A1A1
	$x=1,y=1\quad(1,1)\quad x=2,y=2\quad(2,2)$	A1 (5) **(9)**

(a)
B1 For a correct equation for the asymptote. NB $x\neq\frac{3}{2}$ scores B0

(b)
M1 Attempt to differentiate by quotient rule. Denominator must be correct. Numerator must be the difference of two terms of the appropriate form.
A1 NB M1 on e-PEN First term correct
A1 Second term correct
ALT: Use the product rule. M1 for the attempt, using $\left(x^2-2\right)\left(2x-3\right)^{-1}$
A1,A1 one for each correct term

(c)
M1 Equate their derivative to 0
M1 Solve their quadratic (numerator) by any valid method.
A1 A1 A1A1 two correct values for *x* from a correct equation; A1A0 for one correct value Ignore extra values.
A1 NB B1 on e-PEN Find the corresponding *y* values. Coordinate brackets need not be shown. Give A0 if more than 2 stationary points shown.

NB: Quadratic solved on a calculator: correct values for *x*, M1A1A1
One or both values incorrect, or only one value shown: M0A0A0

Special Case for (c): Both correct answers only shown, Award B1B1 - in first two marks on e-PEN.