Practice worksheet | Vector calculus

Polynomially varying coordinates

Name: _____ Date: _____

6 questions | 12 marks

1. Eliminate t from $x = t + 2$, $y = t^2 - 1$. [2 marks]

2. Find maximum y for $x = t$, $y = 6t - t^2$, $0 \leq t \leq 6$. [2 marks]

3. Eliminate t from $x = t^2 - 1$, $y = 2t$. [2 marks]

4. Find velocity and acceleration for $(t^2, 3t - t^3)$. [2 marks]

5. For $(t^2, t^2 - 2t)$, find the point where vertical velocity is zero. [2 marks]

6. For $(t^2, t^3 - t)$, show $t = -1$ and 1 give the same point. [2 marks]