# Extremas and Zeros Quiz

Name: _____ Date: January 27, 2020

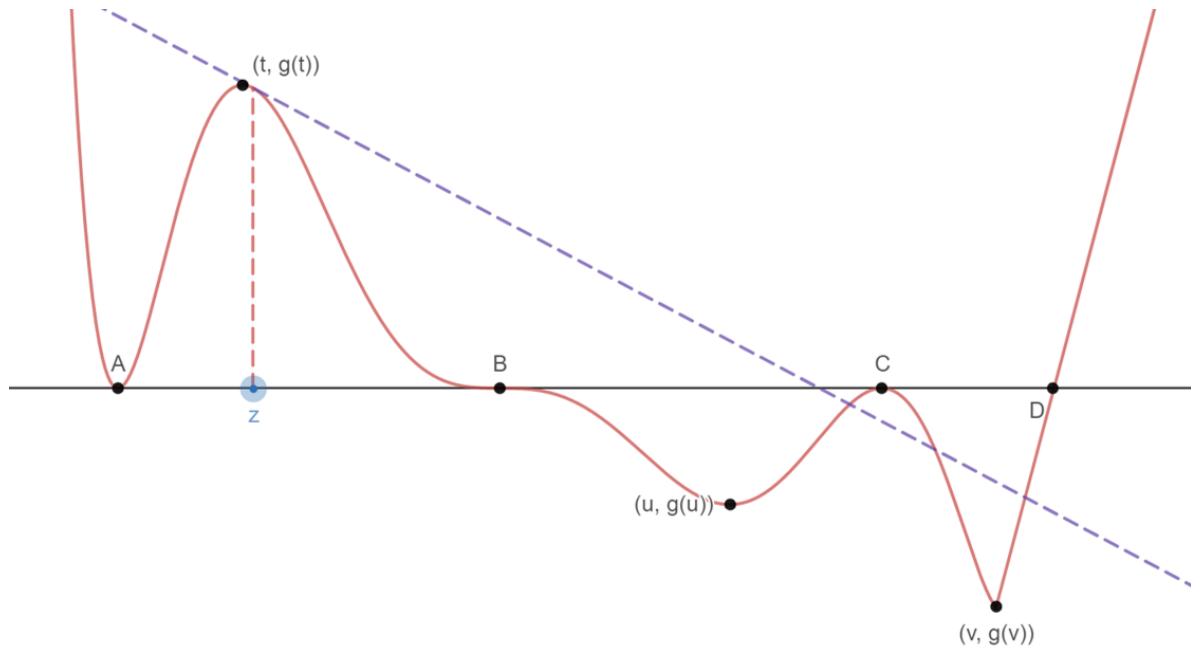| Thinking Strategies | Communication | Modelling & Solving |
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1. Consider the function
$$f(x) = 0.25x^4 - x^3 + 2$$

    (a) Find all extremas for $f$ on the interval $[-2, 4]$.

    (b) Find all the zeros of $f$. Give an argument why you know you won't find more than 2 zeros.

2. Consider the graph of the function $g$ below.



(a) If the point $z$ is chosen as an initial guess to a zero using Newton's method, what zero will be found? Give a brief explanation why you think that.

(b) If $g(x) = h'(x)$ for some function $h$, then at what values of $x$ will $h$ have local maximums? Give a brief explanation why you think that.