



The height of a tree during its first 4 years is given by the function

$$f(x) = 8x - 2x^2$$

for $0 \leq x \leq 4$, where x is the age of the tree in years and $f(x)$ is the height, in meters, above the ground after x years.



- 1) How high would the tree be at the end of 2 years?
- 2) At the end of how many years will the tree reach its maximum height?
- 3) Hence, calculate the maximum height of the tree