

(a) What is the slope of the line through $(2, 4)$ and (x, y) for $y = x^2 + x - 2$ when:

i. $x = 1.99$?

ii. $x = 2.004$?

iii. $x = 2 + h$?

(b) What happens to this last slope when h is very small (close to 0)?

(c) Sketch the graph of $y = x^2 + x - 2$ for x near 2.