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## Opgave 322

$$f(x) = x^3 + x^2 - 5x + 2$$

$$f'(x) = 3x^2 + 2x - 5$$

Find maks og min

$$0 = 3x^2 + 2x - 5$$

Koefficienterne

$$a = 3$$

$$b = 2$$

$$c = -5$$

$$d = b^2 - 4ac$$

$$d = 2^2 - 4 \cdot 3 \cdot (-5)$$

$$d = 64$$

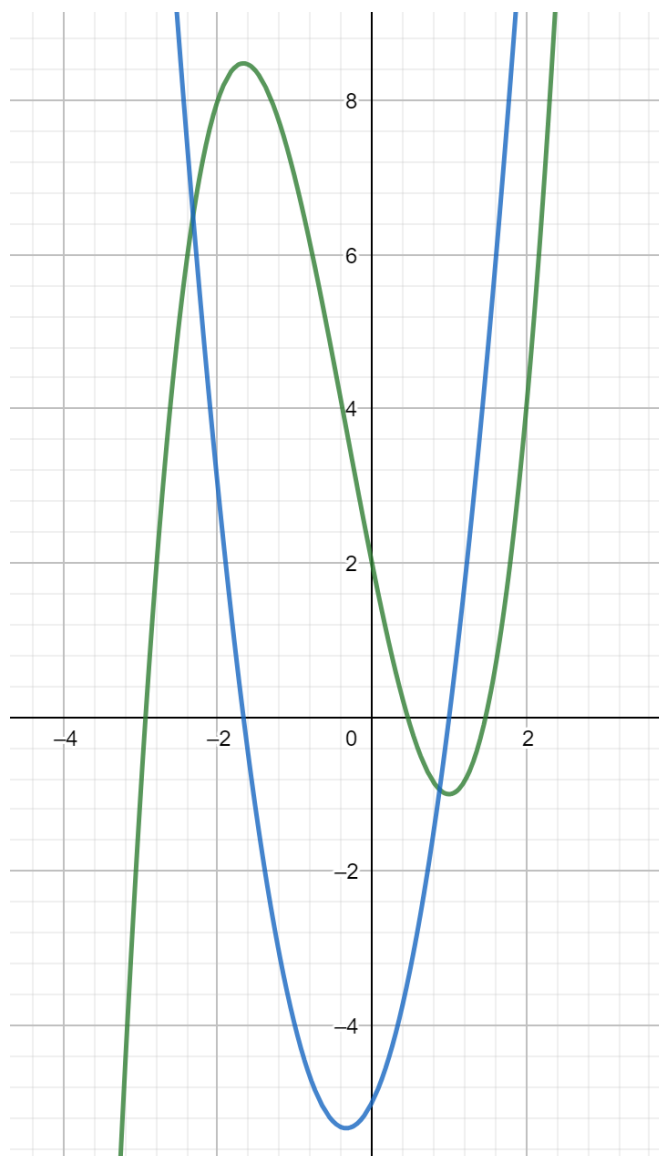
$$x_{1,2} = \frac{-b \pm \sqrt{d}}{2a}$$

$$x_1 = \frac{-2 + \sqrt{64}}{2 \cdot 3}$$

$$x_1 = 1$$

$$x_2 = \frac{-2 - \sqrt{64}}{2 \cdot 3}$$

$$x_2 = -1,666667$$



$$M_1(1, y_1)$$

$$M_2(-1.67, y_2)$$

$$y_1 = f(x_1)$$

$$y_1 = f(1)$$

$$y_1 = 1^3 + 2^3 - 5 \cdot 1 + 2$$

$$y_1 = 6$$

$$y_2 = f(x_2)$$

$$y_2 = (-1.67)^3 + (-1.67)^2 - 5 \cdot (-1.67) + 2$$

$$y_2 = 8,481437$$