

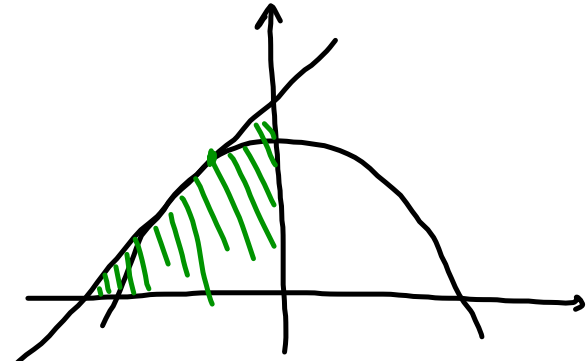
$$7.7. \quad y = -x^2 + 3$$

$$y' = -2x$$

tangentti kohtaan $x = -1$

$$y = -(-1)^2 + 3 = -1 + 3 = 2$$

$$k = -2 \cdot (-1) = 2$$



$$y - 2 = 2(x + 1)$$

$$y = 2x + 4$$

Suorakulmainen kolmio,

$$\text{korkeus } x=0 \rightarrow y = 2 \cdot 0 + 4 = 4$$

leikkaa
y-akselin

$$\text{leveys} \quad y=0 \rightarrow 0 = 2x + 4$$

$$2x = -4$$

$$x = -2$$

$$\text{leveys } |x| = 2$$

leikkaa
x-akselin

$$A = \frac{\text{leveys} \cdot \text{korkeus}}{2} = \frac{2 \cdot 4}{2} = 4$$

Aritmeettinen

$$\dots \dots \dots$$

$$\left\{ \begin{array}{l} \text{erotusluku } d \\ \text{1. jäsen } a_1 \end{array} \right.$$

$$a_n - a_{n-1}$$

$$a_n = a_1 + (n-1)d$$

Summa

$$S_n = n \frac{a_1 + a_n}{2}$$

Geometinen

$$\dots \dots \dots$$

$$\left\{ \begin{array}{l} \text{suhdeluku } q \\ \text{1. jäsen } a_1 \end{array} \right.$$

$$\frac{a_n}{a_{n-1}}$$

$$a_n = a_1 \cdot q^{n-1}$$

$$S_n = \frac{a_1 (1 - q^n)}{1 - q}$$

Laske aritm. Summa

$$51 + 55 + 59 + \dots + 347$$

$$d = 55 - 51 = 4$$

$$a_n = a_1 + (n-1)d \rightarrow$$

$$51 + (n-1) \cdot 4 = 347$$

$$51 + 4n - 4 = 347$$

$$4n = 300$$

$$n = 75$$

$$S_{75} = 75 \cdot \frac{51 + 347}{2} = 14925$$

