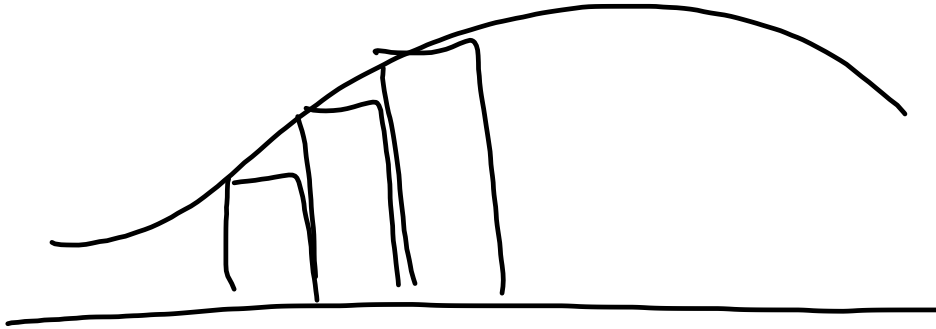


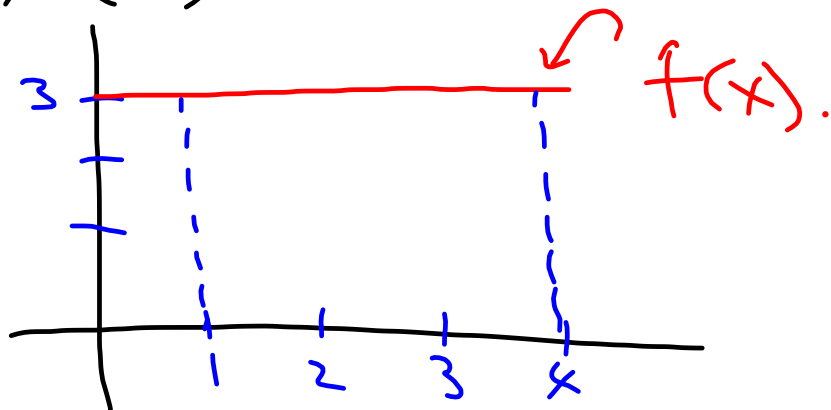
$$\int_a^b f(x) dx$$



$$\int_1^4 f(x) dx$$

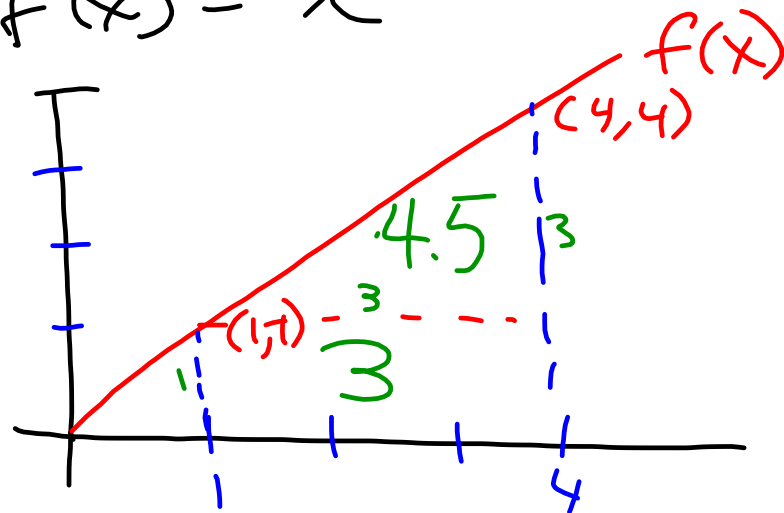
integral of
a constant

$$f(x) = 3$$



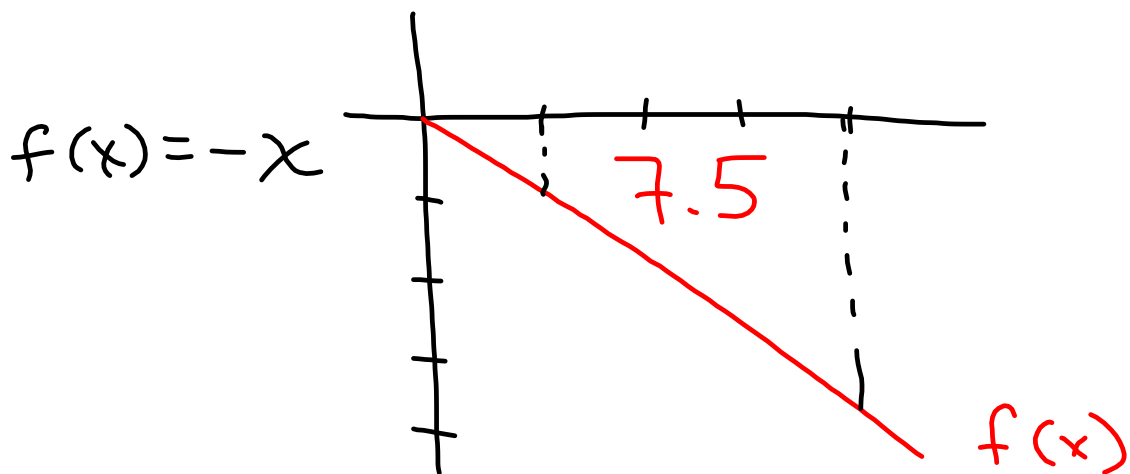
$$\int_1^4 f(x) dx = 7.5$$

$$f(x) = x$$



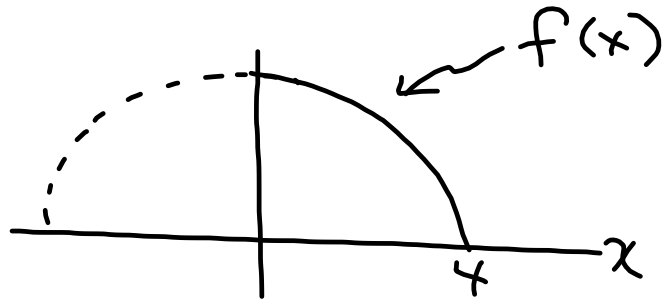
$$\int_1^4 f(x) dx = -7.5$$

"negative accumulation"



Semi-circle

$$\int_0^4 \underbrace{\sqrt{16-x^2}}_{f(x)} dx = 4\pi$$



$$\begin{aligned} \text{area of } \odot &= \pi (4)^2 \\ \frac{1}{4} \odot &= 4\pi \end{aligned}$$

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$$\begin{aligned} \int_{-2}^1 |x| dx &= 2.5 \\ &= \frac{5}{2} \end{aligned}$$

