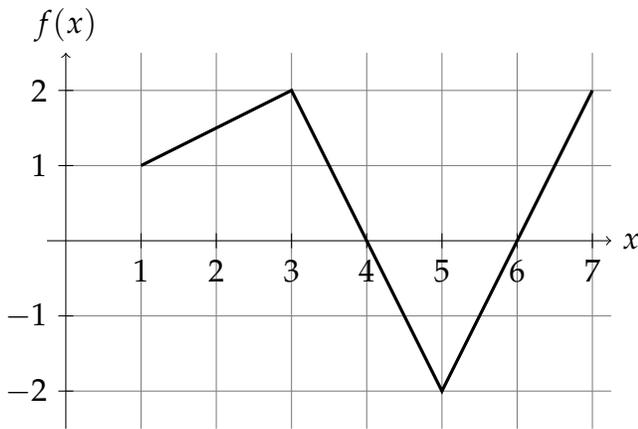


Lecture Handout #25: Nov 29

Integrals and Area



Area between $x = 1$ and $x = 7$:

... above the x -axis: _____

... below the x -axis: _____

Total area: _____

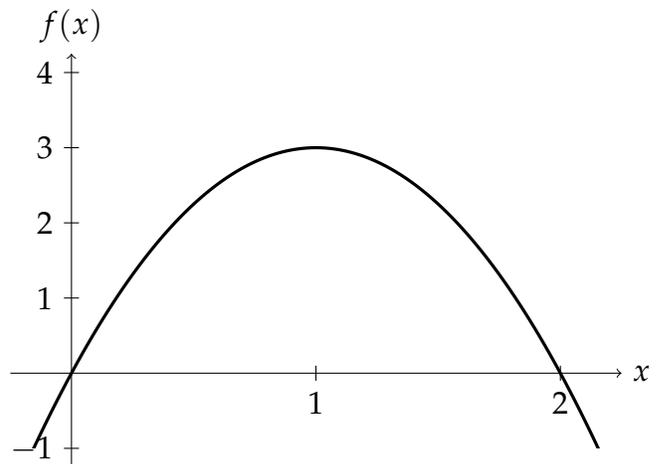
$$\int_1^7 f(x) dx = \underline{\hspace{2cm}}$$

Why are these two numbers different?

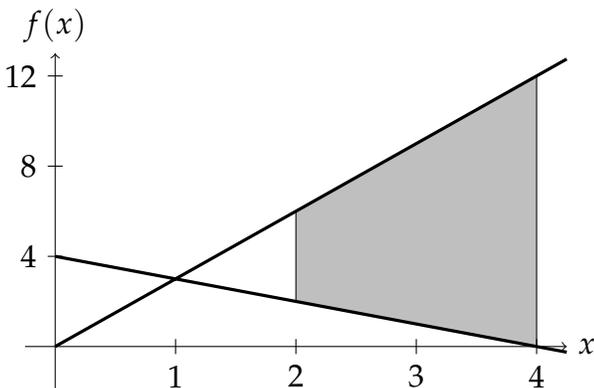
Areas of Regions

Find area between $f(x) = 6x - 3x^2$ and x -axis:

- Limits: $x = \underline{\hspace{1cm}}$ to $x = \underline{\hspace{1cm}}$
- $f(x)$ antiderivative: $G(x) = \underline{\hspace{2cm}}$
- $\int_{\underline{\hspace{1cm}}}^{\underline{\hspace{1cm}}} f(x) dx = \underline{\hspace{2cm}}$



Areas Between Two Curves



Area between $y = 3x$ and $y = 4 - x$ from $x = 2$ to $x = 4$

• Upper function: $f(x) = \underline{\hspace{2cm}}$

• Lower function: $g(x) = \underline{\hspace{2cm}}$

• Area: $\int_2^4 f(x) - g(x) dx = \underline{\hspace{2cm}}$