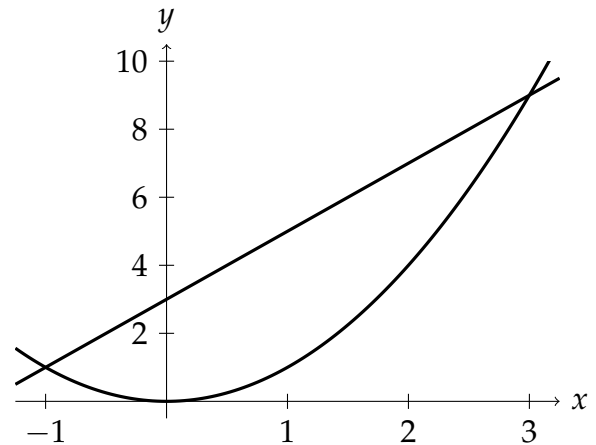


Lecture Handout #26: Dec 1

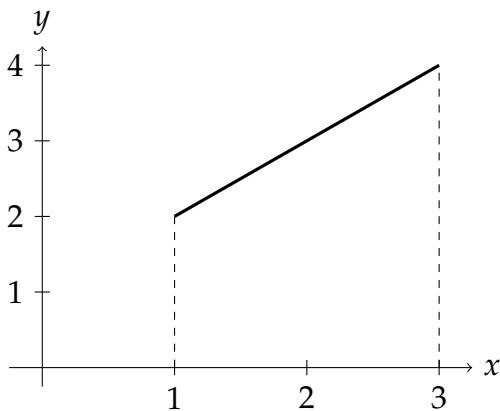
Regions Bounded by Two Curves

Find area between x^2 and $2x + 3$:

- Limits: $x =$ _____ to $x =$ _____
- Upper function: $f(x) =$ _____
- Lower function: $g(x) =$ _____
- Area: \int _____ $f(x) - g(x) dx =$ _____



Average Value of a Function



Average value of $f(x) = x + 1$ from $x = 1$ to $x = 3$

- Guess: average height = _____
- Area: $\int_1^3 x + 1 dx =$ _____
- Width: _____ - _____ = _____
- Height = $\frac{\text{area}}{\text{width}} =$ _____

Average Population

Town population $P(t) = 1000e^{t/5}$ (t in years since 2000)

- Find average population between 2005 and 2010
- \int _____ $P(t) dt =$ _____
- Divide by _____ - _____ = _____
- Average = _____ \approx _____

