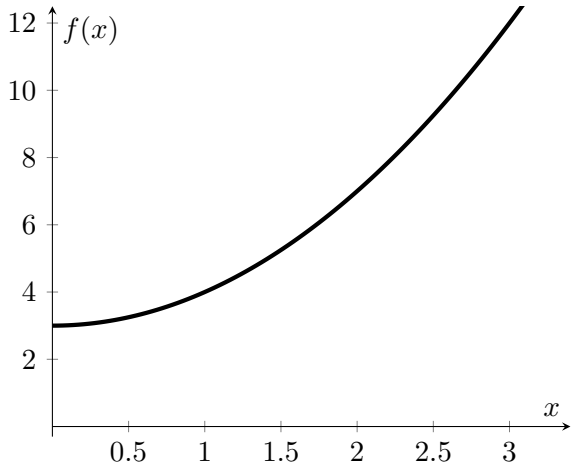
**Name:** _____

1. Consider the function $f(x) = x^2 + 3$. Compute the left and right Riemann sums for $f(x)$ with $n = 4$ sub-intervals on the interval $[1, 3]$. Sketch the rectangles whose area represent the *left* Riemann sum on the graph of $f$ below.



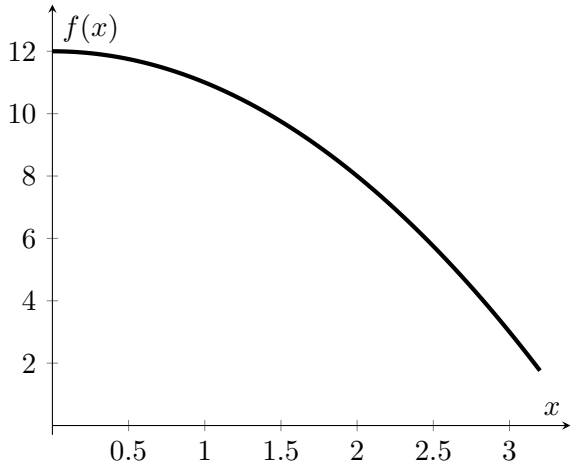

Left Riemann sum:

Right Riemann sum:

2. If the function $f(x)$ above represents the *rate of change* in population, in 100s of people per year, $x$ years after 2025, what do the sums you computed above represent?

**Name:** _____

1. Consider the function $f(x) = 12 - x^2$. Compute the left and right Riemann sums for $f(x)$ with $n = 4$ sub-intervals on the interval $[1, 3]$. Sketch the rectangles whose area represent the *left* Riemann sum on the graph of $f$ below.



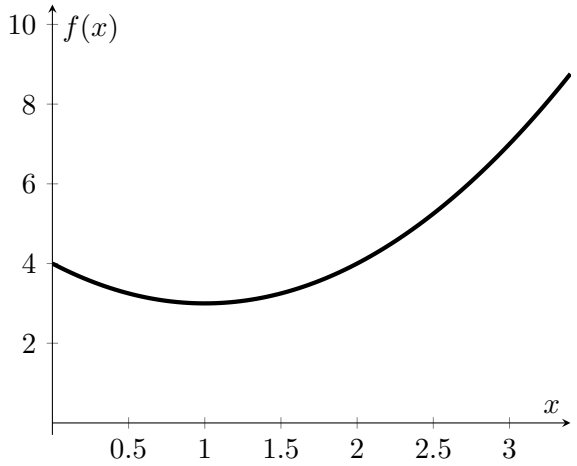

Left Riemann sum:

Right Riemann sum:

2. If the function $f(x)$ above represents the *rate of change* in temperature of a cup of coffee, in degrees per minute, $x$ minutes after it is poured, what do the sums you computed above represent?

**Name:** _____

1. Consider the function $f(x) = x^2 - 2x + 4$. Compute the left and right Riemann sums for $f(x)$ with $n = 4$ sub-intervals on the interval $[1, 3]$. Sketch the rectangles whose area represent the *left* Riemann sum on the graph of $f$ below.



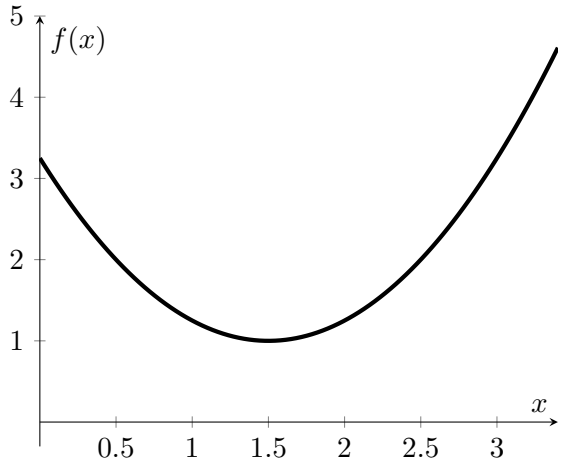

Left Riemann sum:

Right Riemann sum:

2. If the function $f(x)$ above represents the *rate of change* in weight of your pet pig, in lbs per week, $x$ weeks after you adopted her, what do the sums you computed above represent?

**Name:** _____

1. Consider the function $f(x) = (x - 1.5)^2 + 1$. Compute the left and right Riemann sums for $f(x)$ with $n = 4$ sub-intervals on the interval $[1, 3]$. Sketch the rectangles whose area represent the *left* Riemann sum on the graph of $f$ below.




Left Riemann sum:

Right Riemann sum:

2. If the function $f(x)$ above represents the *rate of change* in weight of your pet emu, in lbs per week, $x$ weeks after you adopted him, what do the sums you computed above represent?