MATH 1441 - TA Session: Area and Riemann Sums

Each group self assess comfort level with Riemann sums and select a problem function based upon that assessment. Then complete the following tasks for the selected function.

- Approximate the area bounded below the curve over the given interval using a Riemann Sum with $n = 4$ where the sample points are chosen to be the left hand endpoints.
- Approximate the area bounded below the curve over the given interval using a Riemann Sum with $n = 4$ where the sample points are chosen to be the right hand endpoints.
- Set up the Riemann Sum for arbitrary n where the sample points are the right or left hand endpoints.
- Use the summation formulas and the limit of the Riemann Sum to determine the bounded area exactly.

1. $f(x) = 2x + 1$ over the interval [1,3]
2. $f(x) = 2x^2$ over the interval [0,2]
3. $f(x) = x^3$ over the interval [0,1]
4. $f(x) = 1 - 2x^2$ over the interval [-1,1)
5. $f(x) = 1 - x^3$ over the interval [1,1]