Consider \( \int_{-1}^{3} (2x-1) \, dx \):

a) Draw a labeled diagram shading the region whose "net area" is represented by this integral.

b) Now include the \( n=2 \) division midpoint evaluation rectangles in your diagram and evaluate the corresponding Riemann sum approximation to the integral.

c) Evaluate the integral using "rules of integration:"

d) Evaluate the integral using the limit Riemann sum definition (right endpoints).

[Recall \( \sum_{i=1}^{n} 1 = n \), \( \sum_{i=1}^{n} i = \frac{n(n+1)}{2} \), \( \sum_{i=1}^{n} i^2 = \frac{n(n+1)(2n+1)}{6} \).]

Note: For a linear function, the midpoint approximation turns out to be exact.