

**Math 141 - Homework 13**

Name: \_\_\_\_\_

*Compute the following sums.*

1. 
$$\sum_{n=4}^7 (2n + 1)$$

2. 
$$\sum_{i=1}^{80} (3i - 7)$$

3. 
$$\sum_{k=-3}^3 k^2$$

4. 
$$\sum_{n=1}^{50} (an + b)$$

5. Suppose that  $\int_2^5 f(x) dx = 4$  and  $\int_2^3 f(x) dx = -1$ . What is  $\int_3^5 f(x) dx$ ?

6. Suppose that  $\int_2^5 f(x) dx = 4$  and  $\int_2^5 g(x) dx = -2$ . What is  $\int_2^5 4f(x) + g(x) dx$ ?

7. Estimate the area under the curve  $f(x) = \frac{2}{1+x^2}$  from  $x = -1$  to  $x = +1$  using a Riemann sum with  $N = 100$  rectangles. (Use Desmos: <https://www.desmos.com/calculator>)