

Apply Your Understanding of Summation Notation

In the chart below, the limit of a Riemann sum has been provided for you. Write the corresponding definite integral.

	Definite Integral	Limit of Riemann Sum
1.	$\int_0^4 \sqrt{2x+1} \, dx$	$\lim_{n \rightarrow \infty} \sum_{i=1}^n \left[\sqrt{2\left(\frac{6}{n}\right)+1} \right] \frac{6}{n}$
2.	$\int_{-2}^3 (x^2-3) \, dx$	$\lim_{n \rightarrow \infty} \sum_{i=1}^n \left[\left(-2 + \frac{5i}{n}\right)^2 - 3 \right] \frac{5}{n}$
3.	$\int_1^6 (3x-4) \, dx$	$\lim_{n \rightarrow \infty} \sum_{i=1}^n \left[3\left(1 + \frac{5i}{n}\right) - 4 \right] \frac{5}{n}$
4.	$\int_{-2}^4 x^3 \, dx$	$\lim_{n \rightarrow \infty} \sum_{i=1}^n \left[\left(-2 + \frac{6i}{n}\right)^3 \right] \frac{6}{n}$
5.	$\int_{-2}^0 \sqrt{x^2+1} \, dx$	$\lim_{n \rightarrow \infty} \sum_{i=1}^n \left[\sqrt{\left(-2 + \frac{2i}{n}\right)^2 + 1} \right] \frac{2}{n}$
6.	$\int_2^6 5x+7 \, dx$	$\lim_{n \rightarrow \infty} \sum_{i=1}^n \left[5\left(2 + \frac{4i}{n}\right) + 7 \right] \frac{4}{n}$
7.	$\int_0^4 6x^2-2 \, dx$	$\lim_{n \rightarrow \infty} \sum_{i=1}^n \left[6\left(\frac{4i}{n}\right)^2 - 2 \right] \frac{4}{n}$
8.	$\int_1^3 x^3-1 \, dx$	$\lim_{n \rightarrow \infty} \sum_{i=1}^n \left[\left(1 + \frac{2i}{n}\right)^3 - 1 \right] \frac{2}{n}$