$f := x \to 2 \cdot x^2 - 3 \cdot x$

$$f := x \mapsto 2\,x^2 - 3\,x \tag{1}$$

$xk := k \to 1 + \frac{6 \cdot k}{n}$

$$xk := k \mapsto 1 + \frac{6\,k}{n} \tag{2}$$

$f(xk)$

$$2\,xk^2 - 3\,xk \tag{3}$$

$f\left(1 + \frac{6 \cdot k}{n}\right)$

$$2\left(1 + \frac{6\,k}{n}\right)^2 - 3 - \frac{18\,k}{n} \tag{4}$$

$\frac{6}{n} \sum_{k=1}^{n} \left(f\left(\frac{6 \cdot k}{n} + 1\right)\right)$

$$\frac{6\left(-n + \frac{3\,(n+1)^2}{n} - \frac{3\,(n+1)}{n} + \frac{24\,(n+1)^3}{n^2} - \frac{36\,(n+1)^2}{n^2} + \frac{12\,(n+1)}{n^2}\right)}{n} \tag{5}$$

$\lim_{n \to \infty} \left(\frac{6}{n} \sum_{k=1}^{n} \left(f\left(\frac{6 \cdot k}{n} + 1\right)\right)\right)$

$$156 \tag{6}$$