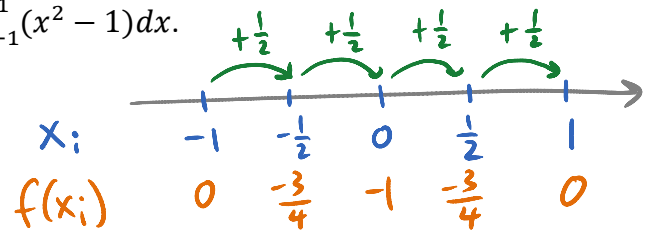


1. Use the trapezoidal rule with $n = 4$ to approximate $\int_{-1}^1 (x^2 - 1) dx$.

$$\Delta x = \frac{1 - (-1)}{4} = \frac{1}{2}$$



$$\int_{-1}^1 (x^2 - 1) dx \approx \frac{(\frac{1}{2})}{2} [0 + 2(-\frac{3}{4}) + 2(-1) + 2(-\frac{3}{4}) + 0]$$

$$= \boxed{-1.25}$$

↑
Approximate area using
Trapezoidal Rule

Evaluate directly to check:

$$\int_{-1}^1 (x^2 - 1) dx = \left[\frac{x^3}{3} - x \right]_{-1}^1 = \left(\frac{1}{3} - 1 \right) - \left(-\frac{1}{3} - (-1) \right) = \boxed{-\frac{4}{3}}$$

Q: Which is correct to say? The yolk of the egg *are* white, or the yolk of the egg *is* white?