

QUIZ 5: INTEGRATION

1. Evaluate the integral: $\int_1^4 \sqrt{x} - 2 \, dx$

$$\begin{aligned}\int_1^4 x^{1/2} - 2 \, dx &= \left. \frac{2}{3} x^{3/2} - 2x \right|_1^4 \\ &= \frac{2}{3} (4^{3/2}) - 2(4) - \left[\frac{2}{3} (1^{3/2}) - 2(1) \right] \\ &= \frac{2}{3} (8) - 8 - \frac{2}{3} + 2 \\ &= \frac{14}{3} - 6 \\ &= -\frac{4}{3}\end{aligned}$$