

2.69
t3

$$\int_{-1}^1 \frac{2x^3+1}{x+2} dx =$$
$$\left[\begin{array}{r} 2x^3+1 \quad | \quad x+2 \\ \hline 2x^3+4x^2 \\ \hline -4x^2+1 \\ \hline -4x^2-8x \\ \hline 8x+1 \\ \hline 8x+16 \\ \hline -15 \end{array} \right]$$

$$\int_{-1}^1 \left(2x^2 - 4x + 8 - \frac{15}{x+2} \right) dx = \frac{2x^3}{3} - 2x^2 + 8x - 15 \ln|x+2| \Big|_{-1}^1 =$$
$$= \left(\frac{2}{3} - 2 + 8 - 15 \ln 3 \right) - \left(-\frac{2}{3} - 2 - 8 - 15 \ln 1 \right) =$$
$$17 \frac{1}{3} - 15 \ln 3$$