$$\int (2x^2 - 2x - 1 + \sin x - \cos x + \ln x + e^x)\,dx$$

$$\downarrow$$

$$\int \sin x\,dx - \int \ln x\,dx - \int \cos x\,dx + 2\int x^2 dx - 2\int x\,dx + \int e^x dx - \int 1\,dx \rightarrow$$

$$\rightarrow \int \sin x\,dx = -\cos x$$

$$\text{для } \ln: \int f\,dg = fg - \int g\,df, \text{ где } f = \ln x \; ; \; dg = dx$$

$$df = \frac{1}{x}dx \; ; \; g = x$$

$$\downarrow$$

$$\int \ln x\,dx = x\ln x - x\int 1\,dx$$

$$\rightarrow -2x - \cos x + x\ln x - \int \cos x\,dx + 2\int x^2 dx - 2\int x\,dx + \int e^x dx$$

$$\rightarrow -2x - \cos x + x\ln x - \sin x + 2\int x^2 dx - 2\int x\,dx + \int e^x dx$$

$$\rightarrow -2x - \cos x + x\ln x - \sin x + \frac{2x^3}{3} - x^2 + e^x + C$$

ответ