

Math 182 Honors Quiz 2

①  $\int_0^2 (3x^2 + x - 5) dx =$

②  $\int_0^2 \frac{1}{1+x} dx =$

③  $\int_0^{\pi/12} \sin 3x dx =$

④

$$\frac{d}{dx} \int_{-x}^{2x} t \cos(t^2 + 1) dt =$$

⑤

$$\int_{-1}^2 |x^2 + x - 2| dx =$$

⑥

$$\text{Let } f(x) = \begin{cases} 3 & \text{if } x \geq 1 \\ -2 & \text{if } x < 1 \end{cases}$$

Compute  $\int_0^3 f(x) dx$