Test
#2

Name _____

Find the anti-derivative +C for all

① $\int 8\,dx$ ② $\int x^2\,dx$ ③ $\int \frac{1}{x}\,dx$

④ $\int \sin 4x\,dx$ ⑤ $\int \sec^2 6x\,dx$ ⑥ $\int 2x+1\,dx$

⑦ $\int e^{4x}\,dx$ ⑧ $\int \frac{1}{e^{2x}}\,dx$ ⑨ $\int \frac{x}{x^2+8}\,dx$

⑩ $\int \sec 2x \tan 2x\,dx$ ⑪ $\int \sqrt{x}\,dx$ ⑫ $\int x(x^2-1)^3\,dx$

(13) $\int x^2 e^{x^3} dx$

(14) $\int (2x+1)^6 dx$

Part B → Find the area below the curve using integration

1) $y = 2x \ [0,4]$ 2) $y = x^2 \ [1,3]$ 3) $y = (1-x)^2 \ [0,4]$

Part C → Find the average value of the function

1) $y = x^2 \ [0,4]$ 2) $y = e^{2x} \ [0,3]$ 3) $y = \sin 2x \ [0, \pi/4]$