MATH285 / VV285 Integration Bee Integration Battle

University of Michigan-Shanghai Jiao Tong University Joint Institute

July 5, 2021



(UM-SJTU JI) MATH265 / VV285 Integration Bee July 5, 2021 1/13



$$\int \sin(101x)(\sin x)^{99} dx$$

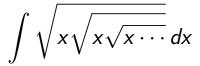
(UM-SJTU JI) July 5, 2021 2/13



$$\frac{1}{100}\sin(100x)(\sin x)^{100}$$

(UM-SJTU JI) MATH285 / VV285 Integration Bes July 5, 2021 3/13





(UM-SJTU JI) July 5, 2021 4/13



 $\frac{x^2}{2}$



$$\int \frac{2x}{\sqrt{1-x^4}} \, dx$$

(UM-SJTU JI) July 5, 2021 6/13



 $\arcsin(x^2)$

(UM-SJTU JI) MATH285 / VV285 Integration Bee July 5, 2021 7/1



$$\int x^3 e^{x^2} dx$$



$$\frac{x^2-1}{2}e^{x^2}$$



10 / 13

$$\int_0^\infty \frac{1}{e^x + 1} \, dx$$

(UM-SJTU JI) MATH285 / WV285 Integration Bes July 5, 2021



log 2

(UM-SJTU JI) MATH285 / V/285 Integration Bee July 5, 2021 11 / 1:



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

(UM-SJTU JI) July 5, 2021 12 / 13



$$\frac{1}{2}\ln(2x^2+2x+1)$$