

THE UK UNIVERSITY
INTEGRATION BEE

2022/23



TIEBREAKER MARK SCHEME

Monday, 12 December 2022

Sponsored by



Jane Street

1. $\sin(1)$
2. $\frac{x^{e-1}}{e-1}$
3. e
4. e^{e^x}
5. $\ln(4)$
6. $\frac{\ln 2}{a}$
7. 0
8. $\frac{\pi}{4}$
9. $\frac{\pi^2}{4}$
10. $\frac{\pi}{4} \ln(3)$
11. $\ln x + \ln 2 \log \log x$
12. $\frac{(2n)!}{4^n n!} \frac{\sqrt{\pi}}{2}$
13. $\frac{\sqrt{\pi}}{2}$
14. $\frac{\pi^2}{12}$
15. $2\zeta(3)$
16. $\pi \ln 2$
17. $\arctan(a)$
18. $\frac{1}{2}$
19. $\frac{\pi^3}{8}$
20. $\frac{\pi}{4}$