Integration Bee Answer Key

HMMT February 2026

Qualifiers

1. 67

2. 0

3. $\dfrac{3}{\log 2} - \dfrac{8}{3}$

4. $-\dfrac{e}{2}\cos(2x)$

5. $\dfrac{3^x}{\log 3}$

6. 6

7. 7

8. $\dfrac{\pi}{4}$

9. $e^{\sin^2 x} - e^{\cos^2 x}$

10. $\dfrac{\pi}{2}$

11. $\dfrac{\cos x - \sin x}{2}$

12. $4\log 2 - \frac{3}{2}$

13. $-\dfrac{\tan(\log x)}{x}$

14. $\dfrac{x^2}{2} + \log(x^3 - 3x - 3)$

15. $x\,(\log x)^{\log x}$

16. 6

17. $\dfrac{\sqrt{\pi}}{2}$

18. $\dfrac{\pi^3}{16}$

19. $\dfrac{\pi^2 - 6}{12}$

20. 2261.29961637

©2026 HMMT

Integration Bee Answer Key

HMMT February 2026

Finals

Sample

[1] 1013

[2] $\dfrac{1}{2027}$

Semifinal 1

[1] $x + \log x - \log(x+1)$

[2] $\dfrac{x}{5} + \dfrac{2}{5}\log(2\sin x + \cos x)$

[3] $\dfrac{-(\sin x - \cos x)^{2028}}{2028}$

Semifinal 2

[1] -1

[2] $e^x\left(x^2 \log x + 2\right)$

[3] $\operatorname{arctanh}(\sqrt{\sin x}) - \arctan(\sqrt{\sin x})$

Audience Round

[1] $-\dfrac{1}{999999}$

Final

[1] $\dfrac{x^2}{4}$

[2] $\sin 1$

[3] 2025

[4] $-\dfrac{\pi}{2}$

[5] 55

Sudden Death

[1] $2\sqrt{3} + \dfrac{\pi}{3}$

[2] $-\dfrac{3}{128}$

[3] $e \sin 1$

[4] $\dfrac{3}{2}(x^{2/3} - \log(1 + x^{2/3}))$

[5] $e^2 - 1$

©2026 HMMT