Integration Bee Answer Key

HMMT November 2026

Qualifiers

1. $\frac{4\sqrt{2}}{5}x^{5/4}$

2. 0

3. $x - \log(x+2)$

4. $e^{e^{e^x}}$

5. π

6. $-\frac{\cos x}{e^x}$

7. $\frac{1}{6}x^2e^{3x^2} - \frac{1}{18}e^{3x^2}$

8. $\frac{1}{7}(x^2+x)^7$

9. π

10. $\frac{5}{6}(x^{4/5}+1)^{3/2}$

11. $-1 - \frac{\pi}{4}$

12. x^{x+1}

13. -500

14. $\log(\log^2(x)+x) - \log x$

15. 0

16. $2\sqrt{2}\log(1+\sqrt{2}) - 2$

17. $2\sqrt{2}\arctan\left(\sqrt{2}\right) - \frac{\pi}{2}$

18. $-4\pi\log 2$

19. $\frac{\pi + 2\log 2}{4}$

20. 1.184299525

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Finals

Sample

[1] 1013

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

Semifinal 1

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

[2] $\log(e^x + 1 + e^{-x})$

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

Semifinal 2

[1] $\dfrac{25}{154}$

[2] $\log(e^{e^x} - x) - e^x$

[3] $4 - 2\sqrt{2} - \dfrac{\pi}{4}$

Audience Round

[1] $\dfrac{\pi}{2} - \dfrac{1}{1000}$

Final

[1] x

[2] $2\arctan(\sin x + \cos x)$

[3] $\dfrac{4}{3}$

[4] $\sin 1$

[5] $\dfrac{17}{15}\sqrt{2} - \dfrac{16}{15}\sqrt[4]{2}$

Sudden Death

[1] $\dfrac{17}{2}$

[2] $\dfrac{2}{3}(2 - \sqrt{2})$

[3] $\dfrac{11}{12}$

[4] $\log(1 + \sqrt{2}) - \log 2$

[5] $\sin 2$

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