

Homework 16 Answer Key

1. $\ln x$

2. $\frac{\cos(\ln x)}{x}$

3. $\frac{\cos x}{\sin x}$

4. $-\frac{1}{x}$

5. $-\frac{1}{x(\ln x)^2}$

6. $\frac{1}{\ln(\ln x)} \cdot \frac{1}{\ln x} \cdot \frac{1}{x}$

7. $3(\ln x)^2 \cdot \frac{1}{x}$

8. $\frac{3}{x}$

9. -3

10. $\frac{-6x^2}{(2+e^{-6x})e^{6x}} + 2x \ln(2+e^{-6x})$

11. $\frac{1}{2x}$

12. $\frac{1}{2\sqrt{\ln x}} \cdot \frac{1}{x}$

13. 1

14. Absolute Max Value $f(e) = \frac{1}{e}$

15. Absolute Minimum Value $f(2) = 1 - \ln 2$

16. $\frac{49}{16}$

17. $\ln 6$

18. $\frac{5}{2}$

19. Use Log Algebra

20. -5

21. $\frac{\ln(16)}{5}$

22. $\ln 5$

23. $-\frac{1}{7} \ln|2-x^7| + C$

24. $\frac{1}{3} \ln\left(\frac{16}{9}\right)$

25. $\ln 2 + \frac{7}{24}$

