

Answer Key

Math 1271 Fall 2001 Final Exam

Multiple Choice Problems

1. B
2. E
3. C
4. C
5. A

6. C
7. B
8. E
9. D
10. D

11. D
12. D

Written Answer Problems

13. $-7 \cdot (2^{1/3})/144$

14. $f(x) = (5/2) \cdot x + (1/6) \cdot x^3 - (1/5) \cdot x^5 - (23/10)$

15.

- a) $(1/25\pi)$ cm/sec
- b) $8 \text{ cm}^2/\text{sec}$

16.

a) shell method: $2\pi \int_0^5 x e^{-x^2} dx$

b) disk method: $\pi \int_0^{e^{-25}} 25 dy + \pi \int_{e^{-25}}^1 (-\ln y) dy$

c) $V = \pi \cdot (1 - e^{-25}) \approx \pi$

17. area: 1

18. $[-(t^{1/4}) \sin(\sqrt{t}) / (2 \cdot \sqrt{x})] + 2x^2 \sin(x^2)$