

1 Answers: MATH 251

Extra Practice (for Exam 2)

1. 3

2. $5y + z = 1$

3. c.

4. e.

5. a.

6. $\max f = 5, \min f = 4$

7. (b)

$$\int_0^9 \int_0^{\sqrt{x}} f(x, y) \, dy \, dx$$

8. 8π

9.

$$\int_0^{\pi/2} \int_0^1 \int_{r^2}^r r^3 z \cos \theta \sin \theta \, dz \, dr \, d\theta$$

10. $\max f = 18, \min f = -\frac{1}{4}$

11. $\frac{1}{4} \sin 81$

12. $\frac{27}{2}$

13. $\pi/24$

14. 8π

15. dimensions: $L = 1, W = 2, H = 2$, volume $V = 4$

16. 4.5π

17. $(\frac{9}{2\pi}, \frac{9}{2\pi})$

18. $\frac{40\pi}{3}$

19. $\max f = f(1, 2) = 4, \min f = f(2, 4) = -64$

20. $\max f = f(0, \pm 1) = 2e^{-1}, \min f = f(0, 0) = 0$

21. $81\pi/5$