

Partial solutions for 9 10 11 15-18 20 27 29 33

9. $\int \int_R \sqrt{2} \, dA = 24\sqrt{2}$

10. $\int \int_R (2x + 1) \, dA = 24$

11. $\int \int_R (4 - 2y) \, dA = 3$

15. $\int_1^4 \int_0^2 (6x^2y - 2x) \, dy \, dx = 222$

16. $\int_0^1 \int_0^1 (x + y)^2 \, dx \, dy = 7/6$

17. $\int_0^1 \int_1^2 (x + e^{-y}) \, dx \, dy = 5/2 - e^{-1}$

18. $\int_0^{\pi/6} \int_0^{\pi/2} (\sin x + \sin y) \, dy \, dx = (2/3 - \sqrt{3}/4)\pi$

20. $\int_1^3 \int_1^5 \frac{\ln y}{xy} \, dy \, dx = \frac{1}{2}(\ln 3)(\ln 5)^2$

27. $\int_0^2 \int_0^{\pi/4} x \sec^2 y \, dy \, dx = 2$

29. $\int_0^1 \int_{-3}^3 \frac{xy^2}{x^2 + 1} \, dy \, dx = 9 \ln 2$

33. $\int_0^3 \int_0^2 ye^{-xy} \, dx \, dy = \frac{1}{2}e^{-6} + \frac{5}{2}$

19. 18

21. $\frac{21}{2} \ln 2$

28. 4

31. $\frac{\sqrt{3} - 1}{2} - \pi/12$

32. $2 \ln 2 - 1$

34. $(6 \ln 6 - 6 - 5 \ln 5 + 5) - (4 \ln 4 - 4 - 3 \ln 3 + 3)$