

习题7

1. (1) A; (2) C; (3) D; (4) C; (5) D; (6) B; (7) B; (8) D.
2. (1) 0; (2) $\int_0^1 dy \int_{2-y}^{1+\sqrt{1-y^2}} f(x, y) dx$; (3) $\int_0^{\arctan R} d\theta \int_0^R f(\tan \theta) r dr$;
(4) $\frac{\pi}{4}$; (5) π ; (6) -2π ; (7) $\frac{\sqrt{3}}{2}$; (8) π ; (9) $2x$.
3. (1) $\frac{16}{45}a^5$; (2) $\pi(f(R^2) - f(0))$; (3) $\frac{\pi}{4}$; (4) $\frac{4}{15}\pi a^5(l+m+n)$.
4. $\sqrt{7}\pi$. 5. $\frac{3}{32}\pi a^4$. 6. 略. 7. $\frac{(2+t_0^2)^{\frac{3}{2}} - 2\sqrt{2}}{3}$. 8. 0.
9. $\frac{22}{9}\pi a^4$. 10. 0. 11. -2π .