Nos exercícios 12 a 34, calcular as integrais.

12. $\int_{-1}^{2} x(1 + x^3)dx$

13. $\int_{-3}^{0} (x^2 - 4x + 7)dx$

14. $\int_{1}^{2} \frac{dx}{x^6}$

15. $\int_{4}^{9} 2t\sqrt{t}\, dt$

16. $\int_{0}^{1} \frac{dy}{\sqrt{3y + 1}}$

17. $\int_{\pi/4}^{3\pi/4} \text{sen } x \cos x\, dx$

18. $\int_{-1}^{1} \frac{x^2 dx}{\sqrt{x^3 + 9}}$

19. $\int_{0}^{2\pi} |\text{sen } x|dx$

20. $\int_{-2}^{5} |2t - 4|dt$

21. $\int_{0}^{4} |x^2 - 3x + 2|dx$

22. $\int_{0}^{4} \frac{4}{\sqrt{x^2 + 9}}\, dx$

23. $\int_{-2}^{0} \frac{v^2 dv}{(v^3 - 2)^2}$

24. $\int_{1}^{5} \sqrt{2x - 1}\, dx$

25. $\int_{1}^{4} \frac{dx}{\sqrt{x}(\sqrt{x} + 1)^3}$

26. $\int_{0}^{3} x\sqrt{1 + x}\, dx$

27. $\int_{0}^{\pi/2} \text{sen}^2 x\, dx$

28. $\int_{0}^{\pi/2} \frac{\cos x}{(1 + \text{sen } x)^5}\, dx$

29. $\int_{0}^{4} (2x + 1)^{-1/2}dx$

30. $\int_{0}^{2} \sqrt{2x}(\sqrt{x} + \sqrt{5})dx$

31. $\int_{1}^{2} \frac{5x^3 + 7x^2 - 5x + 2}{x^2}\, dx$

32. $\int_{1}^{2} x \ln x\, dx$

33. $\int_{-3}^{-2} \left(t - \frac{1}{t}\right)^2 dt$

34. $\int_{0}^{-1} \frac{x^3 + 8}{x + 2}\, dx.$

Respostas:

12. $\dfrac{81}{10}$

13. 48

14. $\dfrac{31}{160}$

15. $\dfrac{844}{5}$

16. 2/3

17. 0

18. $\dfrac{2\sqrt{2}}{3}\,[\sqrt{5}-2]$

19. 4

20. 25

21. $\dfrac{17}{3}$

22. $4\ln 3$

23. 2/15

24. $\dfrac{26}{3}$

25. $\dfrac{5}{36}$

26. $\dfrac{116}{15}$

27. $\dfrac{\pi}{4}$

28. $\dfrac{15}{64}$

29. 2

30. $2\sqrt{2}+\dfrac{8\sqrt{5}}{3}$

31. $\dfrac{31}{2}-5\ln 2$

32. $2\ln 2-3/4$

33) 9/2

34) -16/3