Lista de ejercicios de la lección 1.3

Instrucciones. Determinar el valor aproximado de la integral usando:

a) Regla del Trapecio

b) Regla de Simpson

1. $\displaystyle\int_{1}^{2} \frac{1}{x}\, dx, \quad n = 6$

10. $\displaystyle\int_{0}^{1} x^{5} e^{x}\, dx, \quad n = 10$

2. $\displaystyle\int_{0}^{\frac{1}{2}} \sin\left(e^{\frac{t}{2}}\right) dt, \quad n = 8$

11. $\displaystyle\int_{0}^{4} \sqrt{x}\, \sin x\, dx, \quad n = 8$

3. $\displaystyle\int_{2}^{3} \frac{1}{\ln x}\, dx, \quad n = 10$

12. $\displaystyle\int_{0}^{3} \frac{1}{1 + y^{5}}\, dy, \quad n = 6$

4. $\displaystyle\int_{0}^{1} \ln\left(1 + e^{x}\right) dx, \quad n = 8$

13. $\displaystyle\int_{0}^{3} \frac{1}{1 + x}\, dx, \quad n = 8$

5. $\displaystyle\int_{1}^{2} e^{\frac{1}{x}}\, dx, \quad n = 4$

14. $\displaystyle\int_{0}^{1} \frac{1}{\sqrt{1 + x^{2}}}\, dx, \quad n = 4$

6. $\displaystyle\int_{1}^{3} \frac{x}{x^{4} + 1}\, dx, \quad n = 4$

15. $\displaystyle\int_{2}^{3} \sqrt{1 + x^{3}}\, dx, \quad n = 4$

7. $\displaystyle\int_{0}^{2} \frac{1}{4 + x^{2}}\, dx, \quad n = 5$

16. $\displaystyle\int_{0}^{0.6} \frac{1}{\sqrt{4 - x^{2}}}\, dx, \quad n = 6$

8. $\displaystyle\int_{0}^{1} e^{x^{2}}\, dx, \quad n = 10$

17. $\displaystyle\int_{1}^{\frac{5}{2}} \sqrt[3]{x^{2} + 8}\, dx, \quad n = 6$

9. $\displaystyle\int_{0}^{2} \frac{1}{\sqrt{1 + x^{3}}}\, dx, \quad n = 10$