Bestimme den Flächeninhalt im Intervall

1) $f(x) = 5x - 6$ [1;6]

2) $f(x) = 5x + 7$ [1;4]

3) $f(x) = 6x^6 + 2x^4 - 3x^2$ [1;5]

4) $f(x) = 4x^4 - 2x^2 + 5x$ [3;5]

5) $f(x) = 7x^5 - 7x^3 + 6x^2$ [0;6]

6) $f(x) = 7x^7 + 3x^5 - 3x^4 + 3x^2$ [1;5]

7) $f(x) = 3x^6 - 3x^4 - 2x^3 - 6x$ [1;2]

8) $f(x) = 8x^5 + 8x^4 - 2x^3 - 3x^2$ [0;5]

9) $f(x) = 8x^8 - 3x^7 - 8x^5 - 8x^3 + 8x$ [1;3]

10) $f(x) = 7x^7 + 7x^5 + 3x^4 - 5x^2 + 6$ [1;5]

11) $f(x) = 7x^8 - 4x^6 + 6x^4 - 4x^2 - 8$ [-1;5]

Lösung

1) $F(X) = \frac{5x^2}{2} - \frac{6x}{}$ A= 54 - -3,5=57,5 FE

2) $F(X) = \frac{5x^2}{2} + \frac{7x}{}$ A= 68 - 9,5=58,5 FE

3) $F(X) = \frac{6x^7}{7} + \frac{2x^5}{5} - \frac{3x^3}{3}$ A= 68089,2857 - 0,2571=68089,03 FE

4) $F(X) = \frac{4x^5}{5} - \frac{2x^3}{3} + \frac{5x^2}{2}$ A= 2479,1667 - 198,9=2280,27 FE

5) $F(X) = \frac{7x^6}{6} - \frac{7x^4}{4} + \frac{6x^3}{3}$ A= 52596 - 0=52596 FE

6) $F(X) = \frac{7x^8}{8} + \frac{3x^6}{6} - \frac{3x^5}{5} + \frac{3x^3}{3}$ A= 347859,375 - 1,775=347857,6 FE

7) $F(X) = \frac{3x^7}{7} - \frac{3x^5}{5} - \frac{2x^4}{4} - \frac{6x^2}{2}$ A= 15,6571 - (-3,6714)=19,33 FE

8) $F(X) = \frac{8x^6}{6} + \frac{8x^5}{5} - \frac{2x^4}{4} - \frac{3x^3}{3}$ A= 25395,8333 - 0=25395,83 FE

9) $F(X) = \frac{8x^9}{9} - \frac{3x^8}{8} - \frac{8x^6}{6} - \frac{8x^4}{4} + \frac{8x^2}{2}$ A= 13937,625 - 1,1806=13936,44 FE

10) $F(X) = \frac{7x^8}{8} + \frac{7x^6}{6} + \frac{3x^5}{5} - \frac{5x^3}{3} + \frac{6x}{}$ A= 325264,375 - 4,6417=325259,73 FE

11) $F(X) = \frac{7x^9}{9} - \frac{4x^7}{7} + \frac{6x^5}{5} - \frac{4x^3}{3} - \frac{8x}{}$ A= 1477997,6984 - 7,927=1477989,77 FE