

## Cálculo 2 - Lista 17

1.  $\int \frac{dx}{x^2-4}$
2.  $\int \frac{x^2 dx}{x^2+x-6}$
3.  $\int \frac{5x-2}{x^2-4} dx$
4.  $\int \frac{(4x-2) dx}{x^3-x^2-2x}$
5.  $\int \frac{4w-11}{2w^2+7w-4} dw$
6.  $\int \frac{9t^2-26t-5}{3t^2-5t-2} dt$
7.  $\int \frac{6x^2-2x-1}{4x^3-x} dx$
8.  $\int \frac{x^2+x+2}{x^2-1} dx$
9.  $\int \frac{dx}{x^3+3x^2}$
10.  $\int \frac{x^2+4x-1}{x^3-x} dx$
11.  $\int \frac{dx}{x^2(x+1)^2}$
12.  $\int \frac{3x^2-x+1}{x^3-x^2} dx$
13.  $\int \frac{x^2-3x-7}{(2x+3)(x+1)^2} dx$
14.  $\int \frac{dt}{(t+2)^2(t+1)}$
15.  $\int \frac{3z+1}{(z^2-4)^2} dz$
16.  $\int \frac{(5x^2-11x+5)}{x^3-4x^2+5x-2} dx$
17.  $\int \frac{x^4+3x^3-5x^2-4x+17}{x^3+x^2-5x+3} dx$
18.  $\int \frac{2x^4-2x+1}{2x^5-x^4} dx$
19.  $\int \frac{-24x^3+30x^2+52x+17}{9x^4-6x^3-11x^2+4x+4} dx$
20.  $\int \frac{dx}{16x^4-8x^2+1}$

## Respostas

1.  $\frac{1}{4} \ln \left| \frac{x-2}{x+2} \right| + C$
2.  $x - \frac{9}{5} \ln |x + 3| + \frac{4}{5} \ln |x - 2| + C$
3.  $2 \ln |x - 2| + 3 \ln |x + 2| + C$
4.  $\ln |x| + \ln |x - 2| - 2 \ln |x + 1| + C$
5.  $\ln \left| \frac{(w+4)^3}{2w-1} \right| + C$
6.  $3t - 3 \ln |t - 2| - \frac{2}{3} \ln \left| t + \frac{1}{3} \right| + C$
7.  $\frac{1}{4} \ln \left| \frac{x^4(2x+1)^3}{2x-1} \right| + C$
8.  $x + 2 \ln |x - 1| - \ln |x + 1| + C$
9.  $-\frac{1}{3x} + \frac{1}{9} \ln \left| \frac{x+3}{x} \right| + C$
10.  $\ln \left| \frac{x(x-1)^2}{(x+1)^2} \right| + C$
11.  $-\frac{1}{x} - \frac{1}{x+1} + 2 \ln \left| \frac{x+1}{x} \right| + C$
12.  $\frac{1}{x} + 3 \ln |x - 1| + C$
13.  $\frac{3}{x+1} + \ln |x + 1| - \frac{1}{2} \ln |2x + 3| + C$
14.  $\ln \left| \frac{t+1}{t+2} \right| + \frac{1}{t+2} + C$
15.  $\frac{1}{32} \ln \left| \frac{z+2}{z-2} \right| + \frac{5}{16} \frac{1}{z+2} - \frac{7}{16} \frac{1}{z-2} + C$
16.  $\frac{1}{1-x} + 2 \ln |x - 1| + 3 \ln |x - 2| + C$
17.  $\frac{1}{2}x^2 + 2x - \frac{3}{x-1} - \ln |x^2 + 2x - 3| + C$
18.  $\frac{1}{3x^3} + \ln |2x - 1| + C$
19.  $-\frac{3}{x-1} - \frac{1}{3(3x+2)} - \ln((3x + 2)^{2/3}(x - 1)^2) + C$
20.  $-\frac{1}{8(2x+1)} - \frac{1}{8(2x-1)} + \frac{1}{8} \ln \left| \frac{2x+1}{2x-1} \right| + C$