

```
> f1:=x^3/(1+x^2); int(f1,x);
```

$$f1 := \frac{x^3}{x^2 + 1}$$

$$\frac{1}{2} x^2 - \frac{1}{2} \ln(x^2 + 1)$$

(1)

```
> f2:=x^4/(1+x^3); int(f2,x);
```

$$f2 := \frac{x^4}{x^3 + 1}$$

$$\frac{1}{2} x^2 - \frac{1}{6} \ln(x^2 - x + 1) - \frac{1}{3} \sqrt{3} \arctan\left(\frac{1}{3} (2x - 1) \sqrt{3}\right) + \frac{1}{3} \ln(x + 1)$$

(2)

```
> # Tools:  
# Division algorithm  
# Partial fractions  
# on the remainder term  
# u-substitutions
```