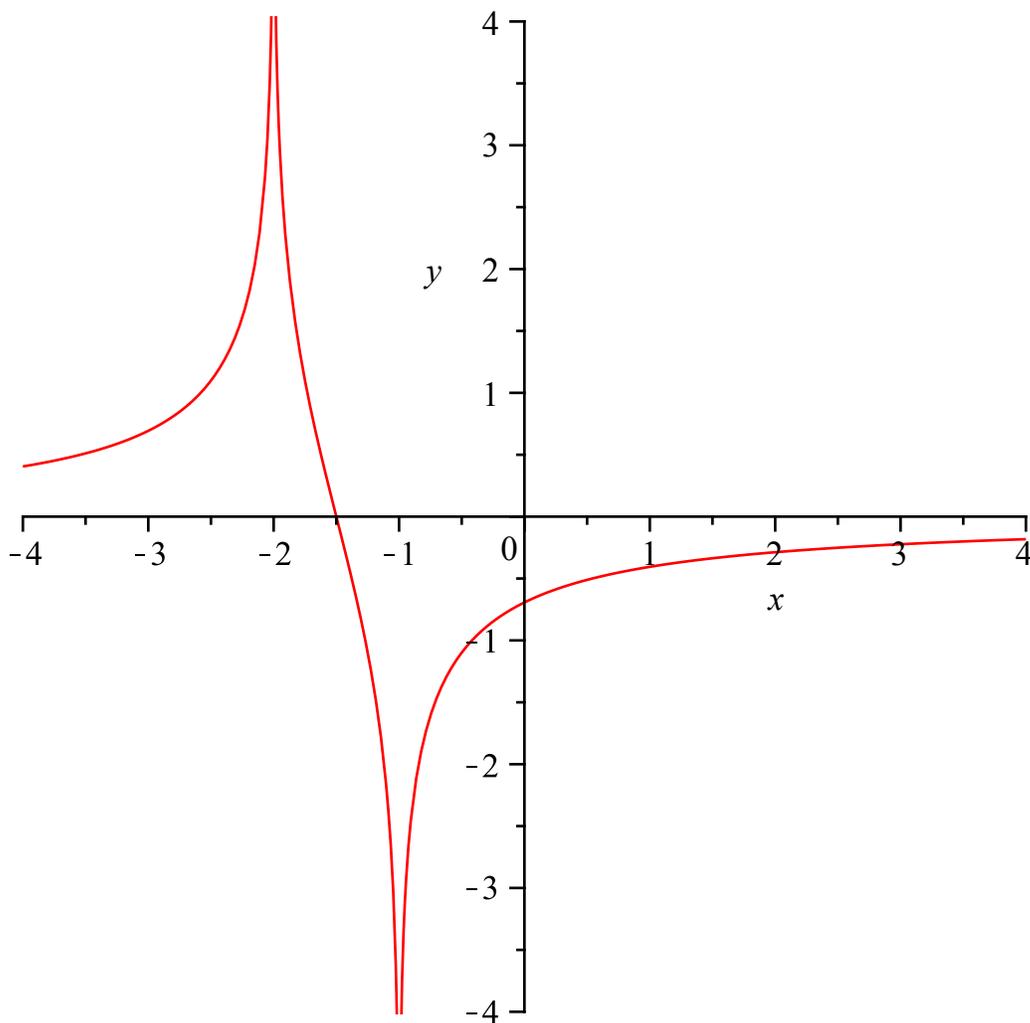


```

> restart;
> F:=ln(abs(x+1))-ln(abs(x+2));
      F:=ln(|x+1|)-ln(|x+2|)
> plot(F,x=-4..4,y=-4..4);

```

(1)



```

> ?piecewise
> C:=piecewise(x>-1,3,
               x>-2 and x<-1,1,
               x<-2,4);

```

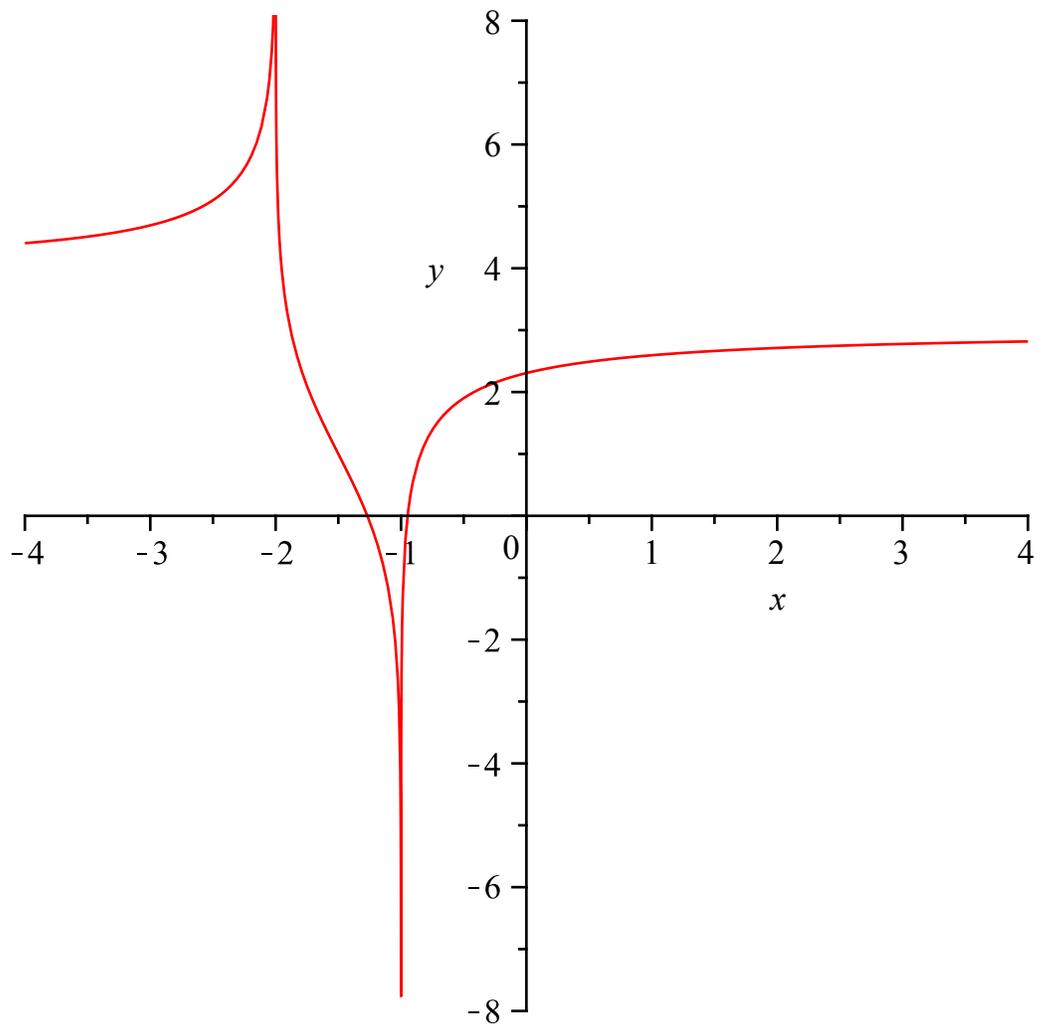
$$C := \begin{cases} 3 & -1 < x \\ 1 & -2 < x \text{ and } x < -1 \\ 4 & x < -2 \end{cases}$$

(2)

```

> plot(F+C,x=-4..4,y=-8..8);

```



```
> a1:=int((B*x+E)/(x^2+x+1),x);
```

$$a1 := \frac{1}{2} B \ln(x^2 + x + 1) + \frac{2}{3} \sqrt{3} \arctan\left(\frac{1}{3} (2x + 1) \sqrt{3}\right) E - \frac{1}{3} \sqrt{3} \arctan\left(\frac{1}{3} (2x + 1) \sqrt{3}\right) B \quad (3)$$

```
> t2:=op(3,op(2,a1));
```

$$t2 := \arctan\left(\frac{1}{3} (2x + 1) \sqrt{3}\right) \quad (4)$$

```
> collect(a1,t2);
```

$$\left(\frac{2}{3} \sqrt{3} E - \frac{1}{3} \sqrt{3} B\right) \arctan\left(\frac{1}{3} (2x + 1) \sqrt{3}\right) + \frac{1}{2} B \ln(x^2 + x + 1) \quad (5)$$

```
>
```