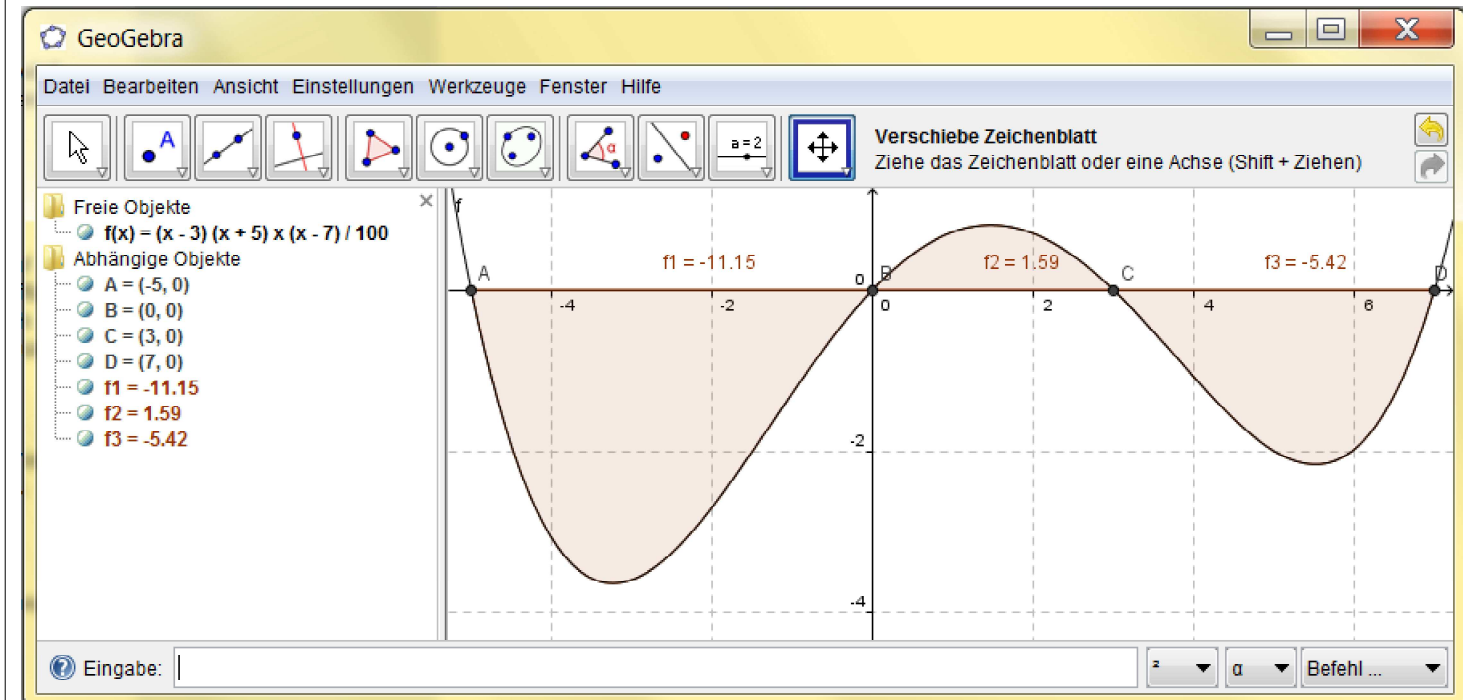


Bestimmtes Integral

1 Aufgabenstellung mit Geogebra

Figure 1:



2 Lösung mit wxMaxima

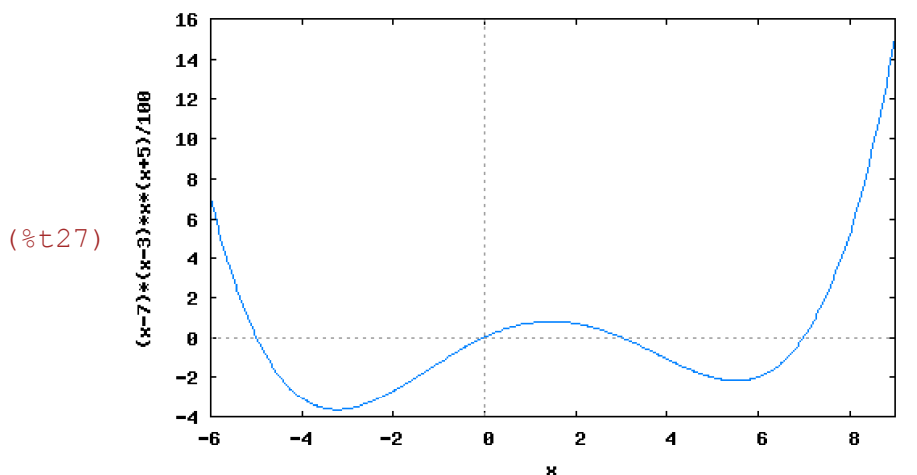
```
(%i26) f(x) := (x-3) * (x+5) * x * (x-7) / 100;
```

```
(%o26) f(x) := 
$$\frac{(x-3)(x+5)x(x-7)}{100}$$

```

2.1 Grafik

```
(%i27) wxplot2d([f(x)], [x, -6, 9])$
```



2.2 Nullstellen

```
(%i28) l:realroots(f(x));
```

```
(%o28) [x = -5, x = 3, x = 7, x = 0]
```

□ 2.3 Die Flächenintegrale

```
(%i36) f1:integrate(f(x),x,-5,0);  
f1:floor(f1*100+0.5)/100.0;  
f1:abs(f1);  
(%o36)  $-\frac{535}{48}$   
(%o37) -11.15  
(%o38) 11.15
```

```
(%i39) f2:integrate(f(x),x,0,3);  
f2:floor(f2*100+0.5)/100.0;  
f2:abs(f2);  
(%o39)  $\frac{3177}{2000}$   
(%o40) 1.59  
(%o41) 1.59
```

```
(%i42) f3:integrate(f(x),x,3,7);  
f3:floor(f3*100+0.5)/100.0;  
f3:abs(f3);  
(%o42)  $\frac{2032}{375}$   
(%o43) -5.42  
(%o44) 5.42
```