

## Termumformung, Termbearbeitung

```
term1:=(x-5)^3*(x-2); "wird nicht ausgerechnet":  
(x-2)·(x-5)3
```

```
expand(term1)  
 $x^4 - 17 \cdot x^3 + 105 \cdot x^2 - 275 \cdot x + 250$ 
```

```
diff(term1, x); "ableiten":  
 $(x-5)^3 + 3 \cdot (x-2) \cdot (x-5)^2$ 
```

```
normal(%)  
 $4 \cdot x^3 - 51 \cdot x^2 + 210 \cdot x - 275$ 
```

```
term2:=x->(x-3)^2/(x+5)  
 $x \rightarrow \frac{(x-3)^2}{x+5}$ 
```

```
normal(term2(x))  
 $\frac{x^2 - 6 \cdot x + 9}{x+5}$ 
```

```
diff(%, x); expand(%); simplify(%); normal(%)
```

```
 $\frac{2 \cdot x - 6}{x+5} - \frac{x^2 - 6 \cdot x + 9}{(x+5)^2}$   
 $\frac{2 \cdot x}{x+5} - \frac{x^2}{x^2 + 10 \cdot x + 25} - \frac{6}{x+5} + \frac{6 \cdot x}{x^2 + 10 \cdot x + 25} - \frac{9}{x^2 + 10 \cdot x + 25}$   
 $\frac{x^2 + 10 \cdot x - 39}{(x+5)^2}$   
 $\frac{x^2 + 10 \cdot x - 39}{x^2 + 10 \cdot x + 25}$ 
```