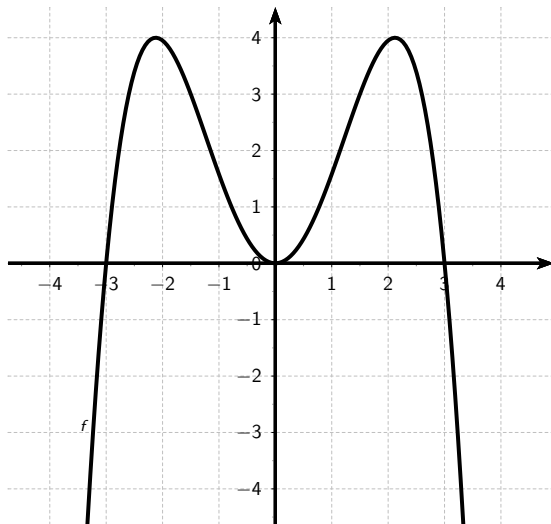# Seminar

'Typ 1 Aufgaben qualitätsvoll erstellen'

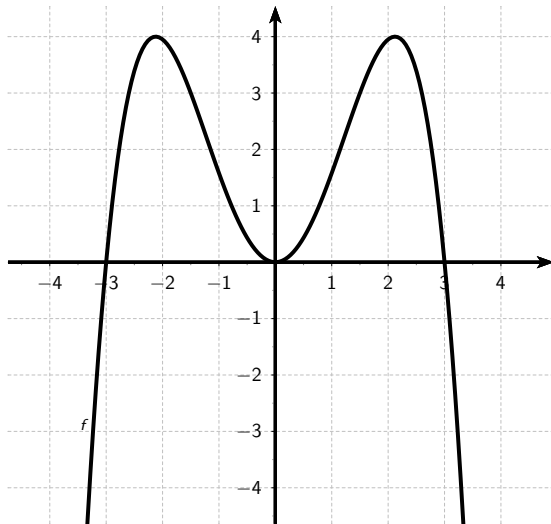# GeoGebra-Optimierung

showorigin
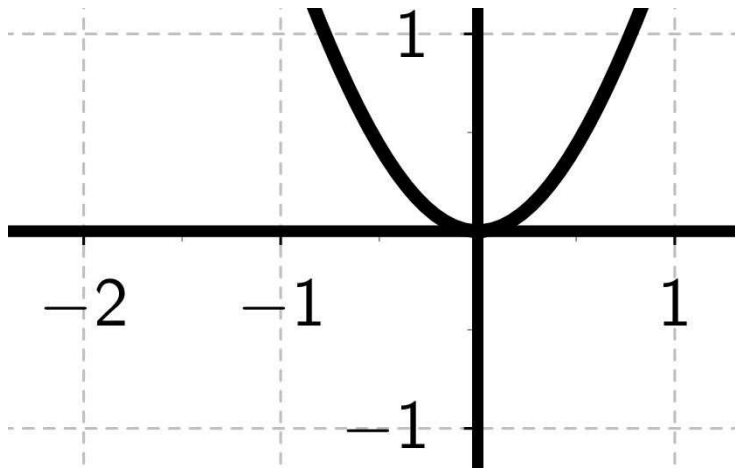
showorigin=false

showorigin

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,xAxis=true,yAxis=true,Dx=1.,Dy=1.,ticksize=-2
       pt 0,subticks=2]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

showorigin

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=2]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
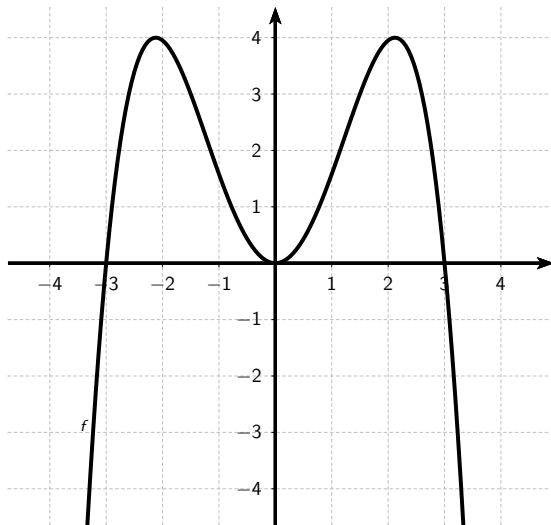
showorigin

subticks

subticks

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
        Dy=1.,ticksize=-2pt 0,subticks=2]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
        =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

subticks

```
 1 \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
      0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
 2 \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
 3 \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
      linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
 4 \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
      linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
 5 \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
      Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
 6 \psplot[linewidth=2.pt,plotpoints
      =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
      +1.7777777777777777*x^(2.0)}
 7 \begin{scriptsize}
 8 \rput[bl](-3.46,-2.98){$f$}
 9 \end{scriptsize}
10 \end{pspicture*}
```
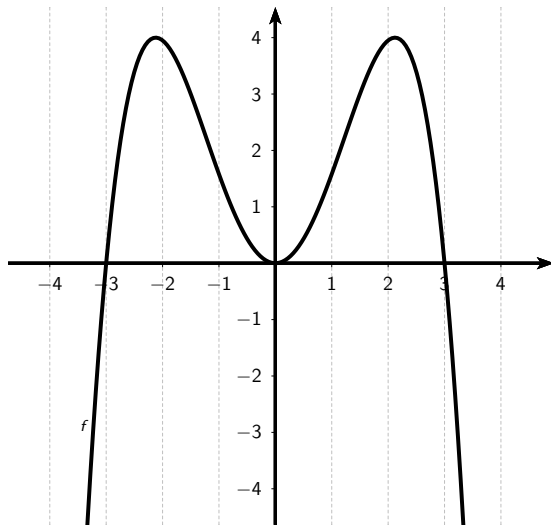
subticks

multips ausblenden

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
        Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
        =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

multips ausblenden

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```
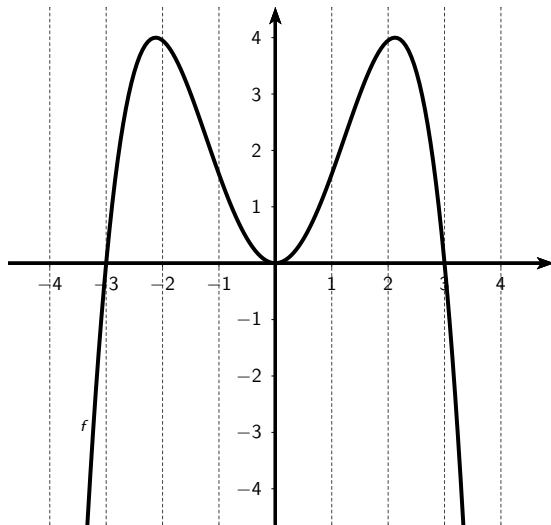
multips ausblenden

multips Helligkeit ändern

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
          0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
          linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
          Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
          =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
          +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```

multips Helligkeit ändern

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=darkgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```
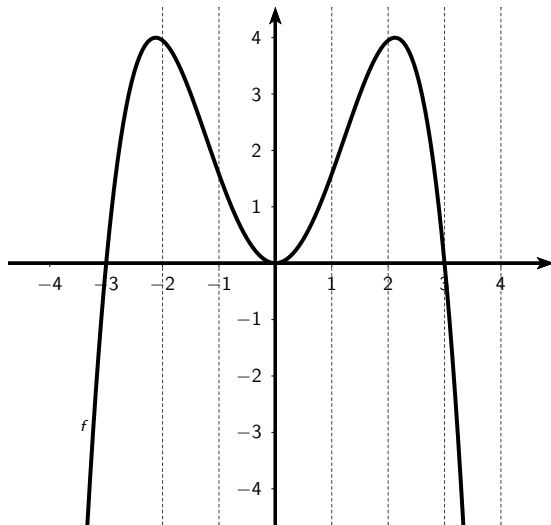
multips Helligkeit ändern

multips Anfang verschieben

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
        Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
        =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```

multips Anfang verschieben

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-2,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
        Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
        =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```
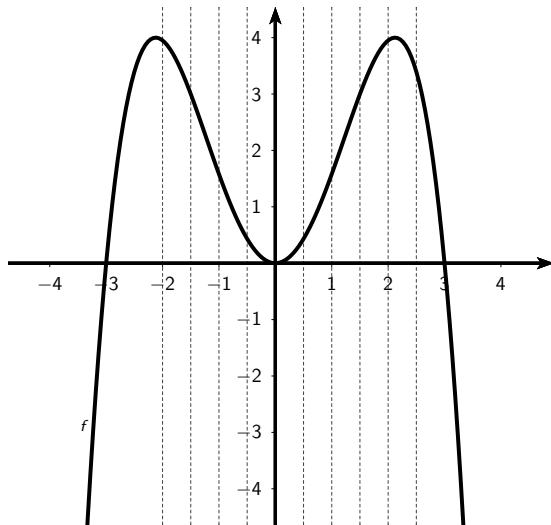
multips Anfang verschieben

multips Linien verdoppeln

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-2,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```

multips Linien verdoppeln

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-2,0)(0.5,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
        Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
        =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```
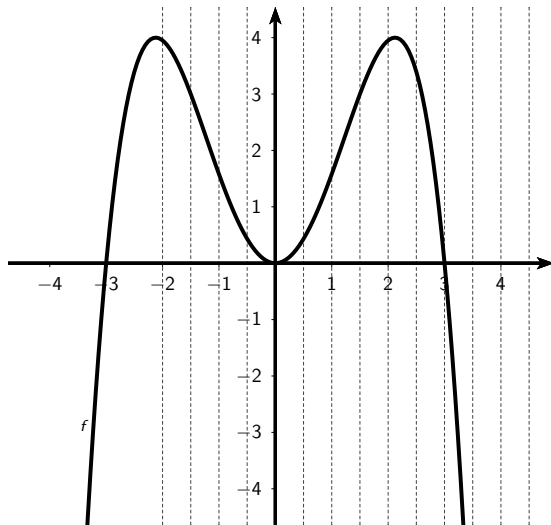
multips Linien verdoppeln

multips Anzahl der Linien

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-2,0)(0.5,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
        Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
        =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```

multips Anzahl der Linien

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
         0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-2,0)(0.5,0){30}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
         linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
         Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
         =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
         +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```
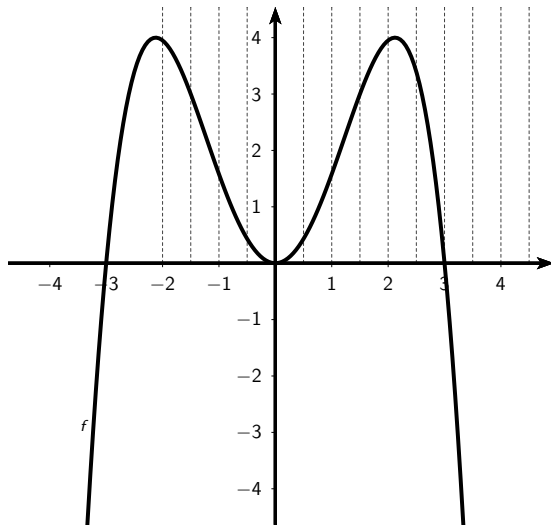
multips Anzahl der Linien

multips nur positive y-Achse

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-2,0)(0.5,0){30}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```
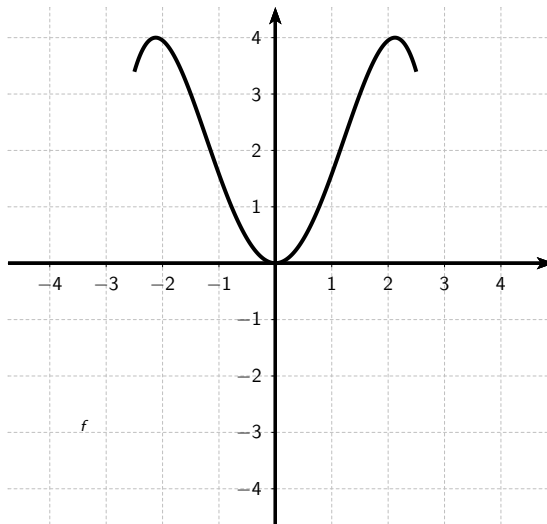
multips nur positive y-Achse

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(-2,0)(0.5,0){30}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,0)(0,4.54)}
4  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
5  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
6  \begin{scriptsize}
7  \rput[bl](-3.46,-2.98){$f$}
8  \end{scriptsize}
9  \end{pspicture*}
```

multips nur positive y-Achse

Funktion zuschneiden

Funktion zuschneiden

Vorsicht: Nicht mit GeoGebra zuschneiden!

```
 1  \newrgbcolor{ccqqqq}{0.8 0. 0.}
 2  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
 3  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
 4  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
 5  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
 6  \psaxes[labelFontSize=\scriptstyle,xAxis=true,yAxis=true,Dx=1.,Dy=1.,ticksize=-2
        pt 0,subticks=2]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
 7  \psline[linewidth=2.pt,linecolor=ccqqqq](-2.499999600000005,3.3950631111101925)
        (-2.499999600000005,3.3950631111101925)
 8  \psline[linewidth=2.pt,linecolor=ccqqqq](-2.499999600000005,3.3950631111101925)
        (-2.474999588944089,3.477995056745815)
 9  \psline[linewidth=2.pt,linecolor=ccqqqq](-2.474999588944089,3.477995056745815)
        (-2.449999577888173,3.5540740672357094)
10  \psline[linewidth=2.pt,linecolor=ccqqqq](-2.449999577888173,3.5540740672357094)
        (-2.424999566832257,3.623482550198431)
11  ...
```
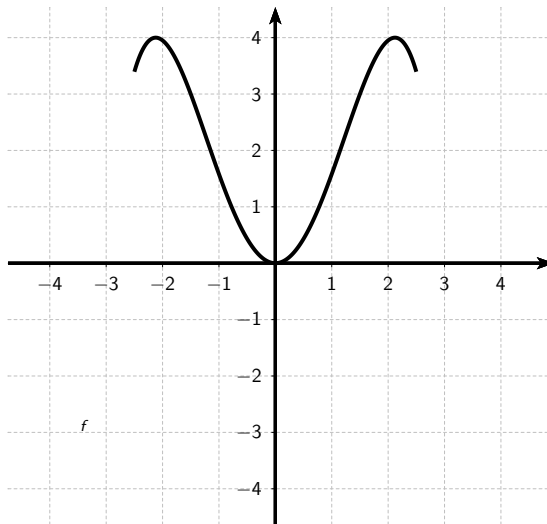
Funktion zuschneiden

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
        Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints=200]{-4.740000000000002}{4.940000000000001}
        {-0.19753086419753085*x^(4.0)+1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

Funktion zuschneiden

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
        Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints=200]{-2.5}{2.5}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
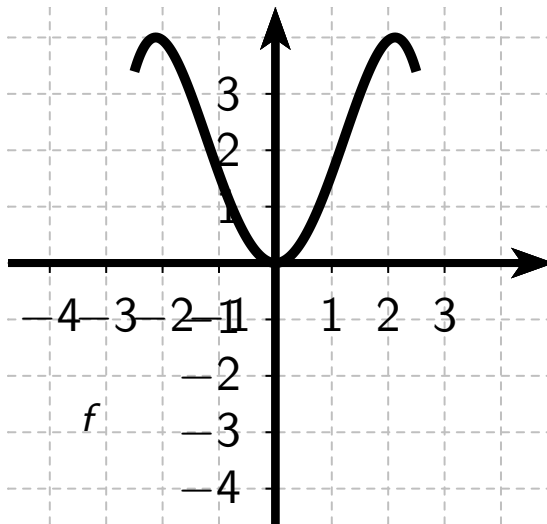
Funktion zuschneiden

Funktion stark verkleinern

```
 1  \psset{xunit=0.4cm,yunit=0.4cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
         0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
 2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
 3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
         linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
 4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
         linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
 5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
         Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
 6  \psplot[linewidth=2.pt,plotpoints=200]{-2.5}{2.5}{-0.19753086419753085*x^(4.0)
         +1.7777777777777777*x^(2.0)}
 7  \begin{scriptsize}
 8  \rput[bl](-3.46,-2.98){$f$}
 9  \end{scriptsize}
10  \end{pspicture*}
```

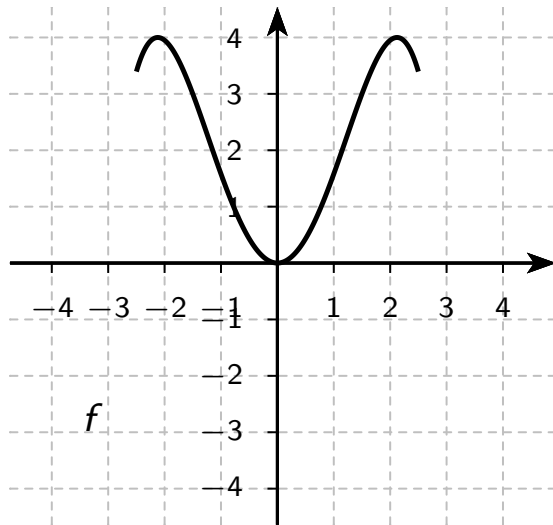# Funktion stark verkleinern

Funktion stark verkleinern

```
1  \psset{xunit=0.4cm,yunit=0.4cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints=200]{-2.5}{2.5}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

Funktion stark verkleinern

```
1  \psset{xunit=0.4cm,yunit=0.4cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=0.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \begin{tiny}
6  \psaxes[showorigin=false,xAxis=true,yAxis=true,Dx=1.,Dy=1.,ticksize=-2pt 0,
       subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
7  \end{tiny}
8  \psplot[linewidth=1.pt,plotpoints=200]{-2.5}{2.5}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
9  \begin{scriptsize}
10 \rput[bl](-3.46,-2.98){$f$}
11 \end{scriptsize}
12 \end{pspicture*}
```
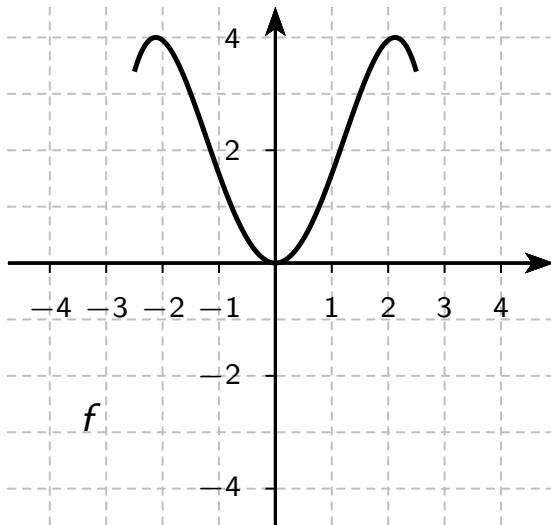
Funktion stark verkleinern

Funktion stark verkleinern

```
1  \psset{xunit=0.4cm,yunit=0.4cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=0.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \begin{tiny}
6  \psaxes[showorigin=false,xAxis=true,yAxis=true,Dx=1.,Dy=1.,ticksize=-2pt 0,
       subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
7  \end{tiny}
8  \psplot[linewidth=1.pt,plotpoints=200]{-2.5}{2.5}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
9  \begin{scriptsize}
10 \rput[bl](-3.46,-2.98){$f$}
11 \end{scriptsize}
12 \end{pspicture*}
```
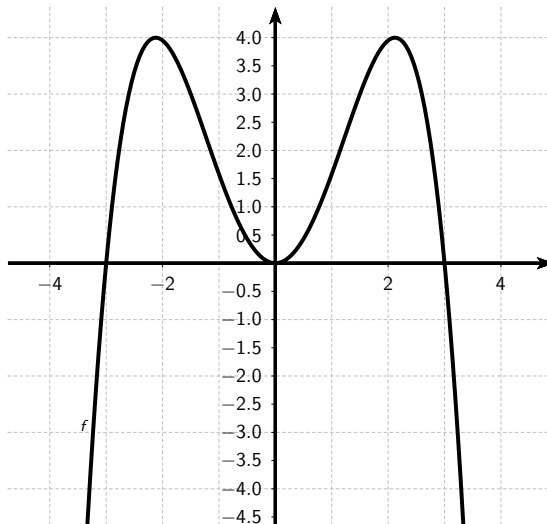
Funktion stark verkleinern

```
 1  \psset{xunit=0.4cm,yunit=0.4cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=0.6pt,arrowsize=3pt 2,arrowinset=0.25}
 2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
 3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
 4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
 5  \begin{tiny}
 6  \psaxes[showorigin=false,xAxis=true,yAxis=true,Dx=1.,Dy=2.,ticksize=-2pt 0,
        subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
 7  \end{tiny}
 8  \psplot[linewidth=1.pt,plotpoints=200]{-2.5}{2.5}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
 9  \begin{scriptsize}
10  \rput[bl](-3.46,-2.98){$f$}
11  \end{scriptsize}
12  \end{pspicture*}
```

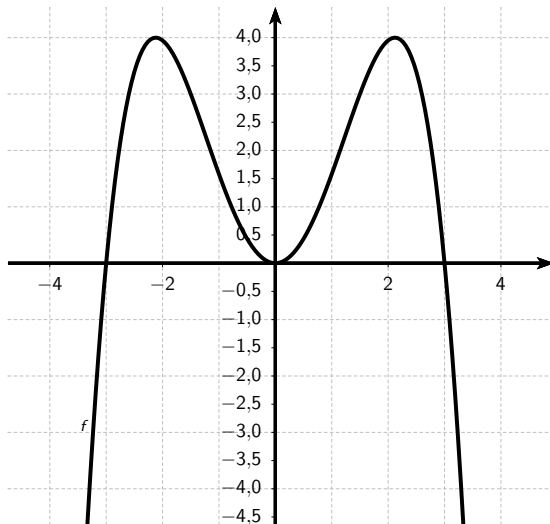# Funktion stark verkleinern

Komma

Komma

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
      0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
      linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
      linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
      Dy=0.5,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
      =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
      +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
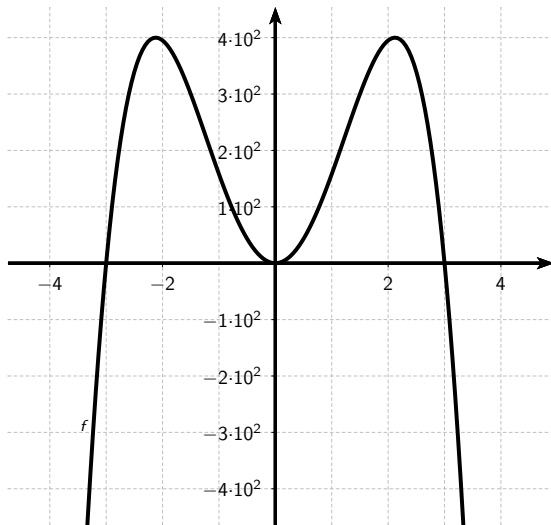
Komma

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[comma,labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,
       Dx=1.,Dy=0.5,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
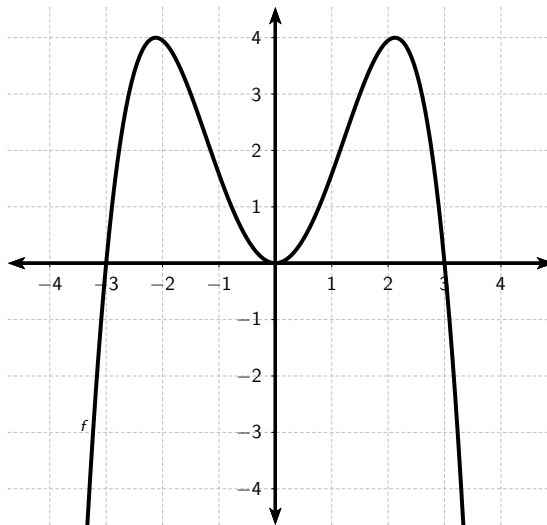
Komma

Label-Factor

Label-Factor

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=2.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

Label-Factor

```
 1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
 2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
 3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
 4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
 5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,ylabelFactor=\cdot 10^2,xAxis
        =true,yAxis=true,Dx=2.,Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)
        (-4.74,-4.64)(4.94,4.54)
 6  \psplot[linewidth=2.pt,plotpoints
        =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
 7  \begin{scriptsize}
 8  \rput[bl](-3.46,-2.98){$f$}
 9  \end{scriptsize}
10  \end{pspicture*}
```
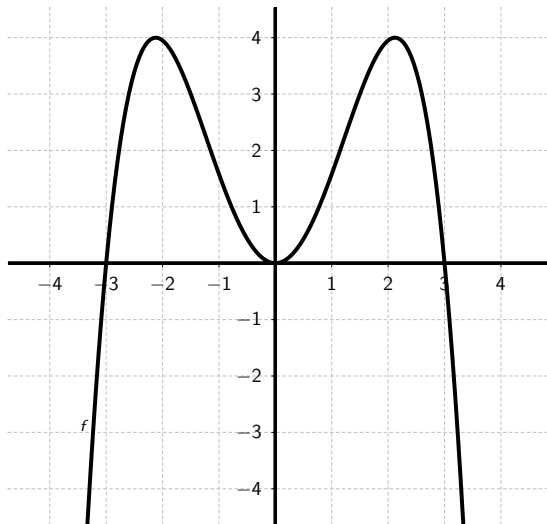
Achsen anpassen

Achsen anpassen

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

Achsen anpassen

```
 1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
         0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
 2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
 3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
         linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
 4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
         linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
 5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
         Dy=1.,ticksize=-2pt 0,subticks=0]{-}(0,0)(-4.74,-4.64)(4.94,4.54)
 6  \psplot[linewidth=2.pt,plotpoints
         =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
         +1.7777777777777777*x^(2.0)}
 7  \begin{scriptsize}
 8  \rput[bl](-3.46,-2.98){$f$}
 9  \end{scriptsize}
10  \end{pspicture*}
```
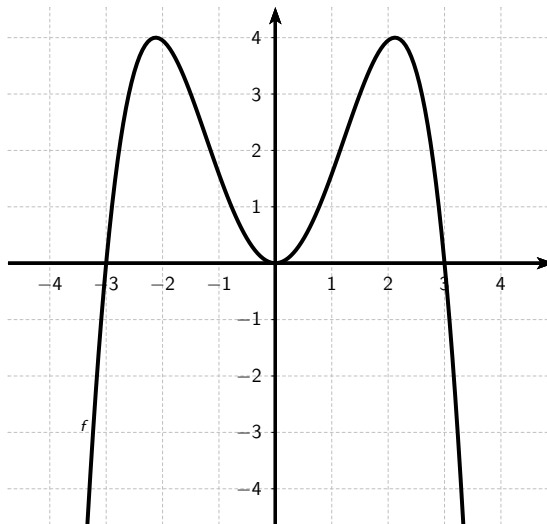
Achsen anpassen

Achsen anpassen

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticks=y,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
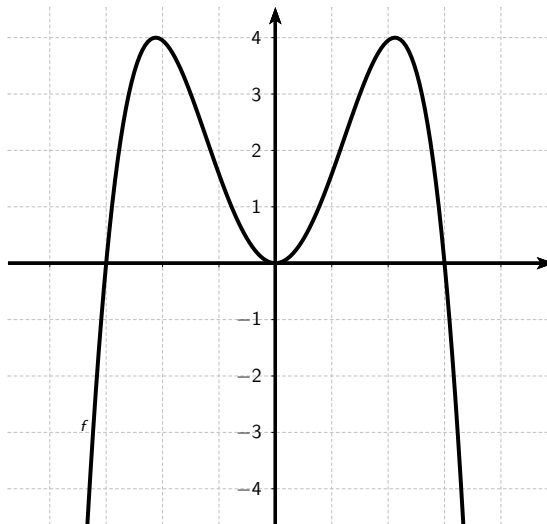
Achsen anpassen

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
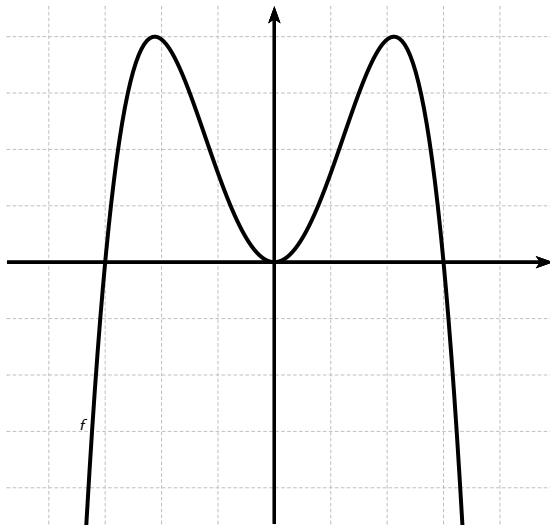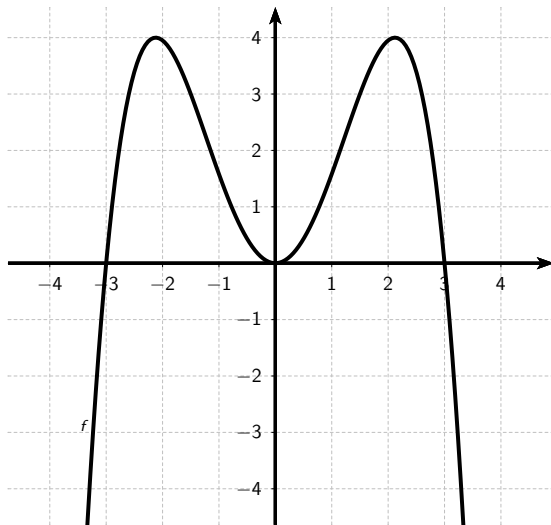
Achsen anpassen

Achsen anpassen

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,labels=none, ticks=none,ticksize=-2pt 0,subticks=0]{->}(0,0)
       (-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

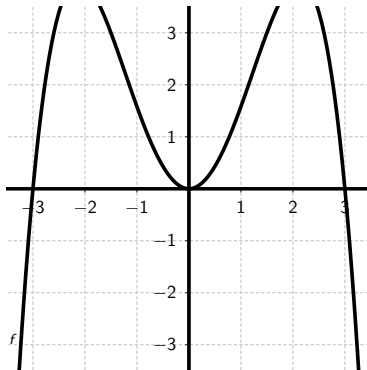# Achsen anpassen

Bildgröße anpassen

Bildgröße anpassen

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-4.74,-4.64)(4.94,4.54)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

Bildgröße anpassen

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
        0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-3.5,-3.5)(3.5,3.5)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
        linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
        Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
        =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
        +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
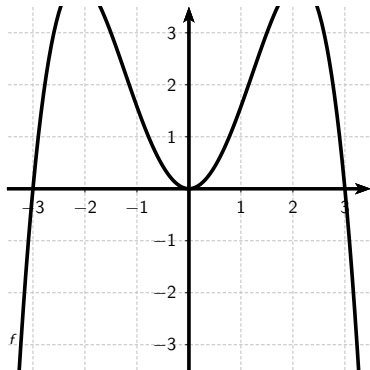
Bildgröße anpassen

Bildgröße anpassen

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-3.5,-3.5)(3.5,3.5)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-4.74,-4.64)(4.94,4.54)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
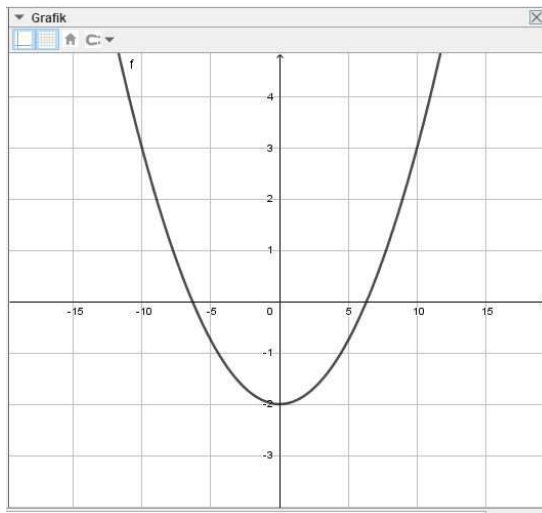
Bildgröße anpassen

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-3.5,-3.5)(3.5,3.5)
3  \multips(0,-4)(0,1.0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-4.74,0)(4.94,0)}
4  \multips(-4,0)(1.0,0){10}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.64)(0,4.54)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=1.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-3.5,-3.5)(3.5,3.5)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-4.740000000000002}{4.940000000000001}{-0.19753086419753085*x^(4.0)
       +1.7777777777777777*x^(2.0)}
7  \begin{scriptsize}
8  \rput[bl](-3.46,-2.98){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
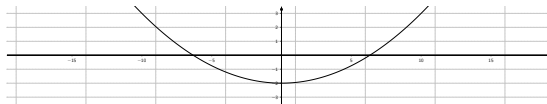
Bildgröße anpassen

Richtige Skalierung

Richtige Skalierung

```
1  \psset{xunit=1.0cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-19.653333333333595,-3.5)(19.43000000000021,3.5)
3  \multips(0,-4)(0,1.0){9}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-19.653333333333595,0)
       (19.43000000000021,0)}
4  \multips(-19,0)(5.0,0){8}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.02)(0,4.84)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=5.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-19.653333333333595,-3.5)
       (19.43000000000021,3.5)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-19.653333333333595}{19.43000000000021}{0.05*x^(2.0)-2.0}
7  \begin{scriptsize}
8  \rput[bl](-10.868888888889044,4.54){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```
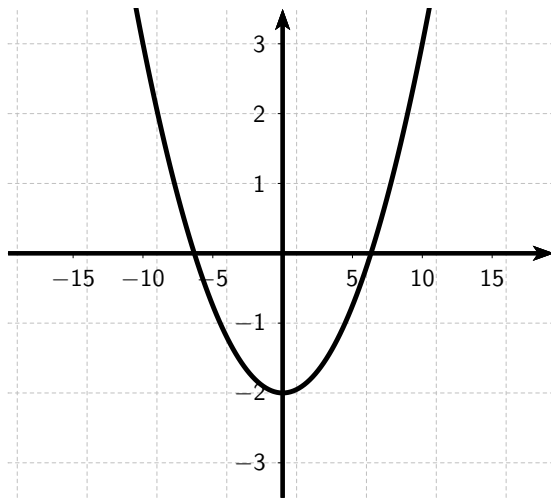
Richtige Skalierung

Richtige Skalierung

```
 1  \psset{xunit=0.2cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
         0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
 2  \begin{pspicture*}(-19.653333333333595,-3.5)(19.43000000000021,3.5)
 3  \multips(0,-4)(0,1.0){9}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
         linewidth=0.4pt,linecolor=lightgray]{c-c}(-19.653333333333595,0)
         (19.43000000000021,0)}
 4  \multips(-19,0)(5.0,0){8}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
         linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.02)(0,4.84)}
 5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=5.,
         Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-19.653333333333595,-3.5)
         (19.43000000000021,3.5)
 6  \psplot[linewidth=2.pt,plotpoints
         =200]{-19.653333333333595}{19.43000000000021}{0.05*x^(2.0)-2.0}
 7  \begin{scriptsize}
 8  \rput[bl](-10.868888888889044,4.54){$f$}
 9  \end{scriptsize}
10  \end{pspicture*}
```

Richtige Skalierung

Richtige Skalierung

```
1  \psset{xunit=0.2cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-19.653333333333595,-3.5)(19.43000000000021,3.5)
3  \multips(0,-4)(0,1.0){9}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-19.653333333333595,0)
       (19.43000000000021,0)}
4  \multips(-19,0)(5.0,0){8}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.02)(0,4.84)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=5.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-19.653333333333595,-3.5)
       (19.43000000000021,3.5)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-19.653333333333595}{19.43000000000021}{0.05*x^(2.0)-2.0}
7  \begin{scriptsize}
8  \rput[bl](-10.868888888889044,4.54){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

Richtige Skalierung

```
1  \psset{xunit=0.2cm,yunit=1.0cm,algebraic=true,dimen=middle,dotstyle=o,dotsize=5pt
       0,linewidth=1.6pt,arrowsize=3pt 2,arrowinset=0.25}
2  \begin{pspicture*}(-19.653333333333595,-3.5)(19.43000000000021,3.5)
3  \multips(0,-4)(0,1.0){9}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(-19.653333333333595,0)
       (19.43000000000021,0)}
4  \multips(-20,0)(5.0,0){8}{\psline[linestyle=dashed,linecap=1,dash=1.5pt 1.5pt,
       linewidth=0.4pt,linecolor=lightgray]{c-c}(0,-4.02)(0,4.84)}
5  \psaxes[labelFontSize=\scriptstyle,showorigin=false,xAxis=true,yAxis=true,Dx=5.,
       Dy=1.,ticksize=-2pt 0,subticks=0]{->}(0,0)(-19.653333333333595,-3.5)
       (19.43000000000021,3.5)
6  \psplot[linewidth=2.pt,plotpoints
       =200]{-19.653333333333595}{19.43000000000021}{0.05*x^(2.0)-2.0}
7  \begin{scriptsize}
8  \rput[bl](-10.868888888889044,4.54){$f$}
9  \end{scriptsize}
10 \end{pspicture*}
```

Richtige Skalierung