```
> B(x):=mu0*I*R^2/2*(1/(R^2+x^2)^(3/2)+1/(2*R^2+x^2-2*R*x)^(3/2));
```

$$\mathrm{B}(x) := \frac{1}{2} I\,\mu 0\, R^2 \left(\frac{1}{(R^2 + x^2)^{3/2}} + \frac{1}{(2\,R^2 + x^2 - 2\,R\,x)^{3/2}} \right)$$

```
> B1(x):=diff(B(x),x);
```

$$\mathrm{B1}(x) := \frac{1}{2} I\,\mu 0\, R^2 \left(-3\,\frac{x}{(R^2 + x^2)^{5/2}} - \frac{3}{2}\,\frac{2\,x - 2\,R}{(2\,R^2 + x^2 - 2\,R\,x)^{5/2}} \right)$$

```
> B2(x):=diff(B(x),x$2);
```

$$\mathrm{B2}(x) := \frac{1}{2} I\,\mu 0\, R^2 \left(15\,\frac{x^2}{(R^2 + x^2)^{7/2}} - 3\,\frac{1}{(R^2 + x^2)^{5/2}} + \frac{15}{4}\,\frac{(2\,x - 2\,R)^2}{(2\,R^2 + x^2 - 2\,R\,x)^{7/2}} - 3\,\frac{1}{(2\,R^2 + x^2 - 2\,R\,x)^{5/2}} \right)$$

```
> simplify(subs(x=R/2,B(x)),assume=real);
```

$$\frac{8}{25}\,\frac{I\,\mu 0\,\sqrt{5}\,\mathrm{signum}(R)}{R}$$

```
> subs(x=R/2,B1(x));
```

$$0$$

```
> simplify(subs(x=R/2,B2(x)));
```

$$0$$

```
>
```