Derivative

`d(f,x)` returns the derivative of f with respect to x.

```
d(x^2,x)
```

$2x$

Extend the argument list for multiderivatives.

```
f = 1 / (x + y)
d(f,x,y)
```

$$\frac{2}{(x+y)^3}$$

```
d(sin(x),x,x)
```

$-\sin(x)$

Another syntax for nth derivative.

```
d(sin(x),x,2)
```

$-\sin(x)$

The gradient of f is returned for vector x in `d(f,x)`.

```
r = sqrt(x^2 + y^2)
d(r,(x,y))
```

$$\begin{bmatrix} \frac{x}{(x^2+y^2)^{1/2}} \\ \frac{y}{(x^2+y^2)^{1/2}} \end{bmatrix}$$

The f in `d(f,x)` can be a vector or higher rank function. Gradient increases rank by one.

```
F = (x^2,y^2)
X = (x,y)
d(F,X)
```

$$\begin{bmatrix} 2x & 0 \\ 0 & 2y \end{bmatrix}$$