

```

dd [pd_PD] [expr_] :=
Expand [expr] /. s_ * v_a_ => Expand [σ = 1;
Sum [
If [a[[i]] == 0, σ * vReplacePart[a,1,i] * s /.
d[pd, List @@ ReplacePart[a, *, i]], σ *= -1;
0], {i, Length[a]}
]
]

```