# WOLFRAM <br> RESEARCH <br> <br> SquaresR 

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## Notations

## Traditional name

Sum of squares function

## Traditional notation

$r_{m}(n)$

## Mathematica StandardForm notation

```
SquaresR[m, n]
```


## Primary definition

```
    13.12.02.0001.01
rm
```

For nonnegative integer $n$, the function $r_{m}(n)$ is the number of representations of $n$ as a sum of $m$ squares of different positive or negative integers.
In particular, $r_{0}(n)=0$.
Example: $r_{2}(2)=4$ because $2=1^{2}+1^{2}=(-1)^{2}+1^{2}==1^{2}+(-1)^{2}=(-1)^{2}+(-1)^{2}$.

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