```
> restart;
> f := proc(n :: integer) :: integer;
  description "cite how many Goldbach partitions there are for an integer n"
  local a, b, c, d, counter;
  with(numtheory) :
  a := Vector[row](20);
  for b from 2 to 20 do
  a[b] := ithprime(b);
  end do;
  counter := 0;
  for d from 2 to 20 do
  for c from 1 to n/2 do
  if ithprime(d) + a[c + 1] = n then counter := counter + 1; end if;
  end do;
  end do;
  return counter;
  end proc;
```

```
f := proc(n::integer)::integer;
    local a, b, c, d, counter;
    description "cite how many Goldbach partitions there are for an integer n";
    with(numtheory);
    a := Vector[row](20);
    for b from 2 to 20 do a[b] := ithprime(b) end do;
    counter := 0;
    for d from 2 to 20 do
        for c to 1/2*n do
            if ithprime(d) + a[c + 1] = n then counter := counter + 1 end if
        end do
    end do;
    return counter
end proc
```

(1)

```
> f(6)
```

$$1 \tag{2}$$

```
> f(8)
```

$$2 \tag{3}$$

```
> v := Vector[row](15) :
> for a from 2 to 30 by 2 do
  v[(a/2)] := f(a);
  end do;
```

$$v_1 := 0$$

$$v_2 := 0$$

$$v_3 := 1$$

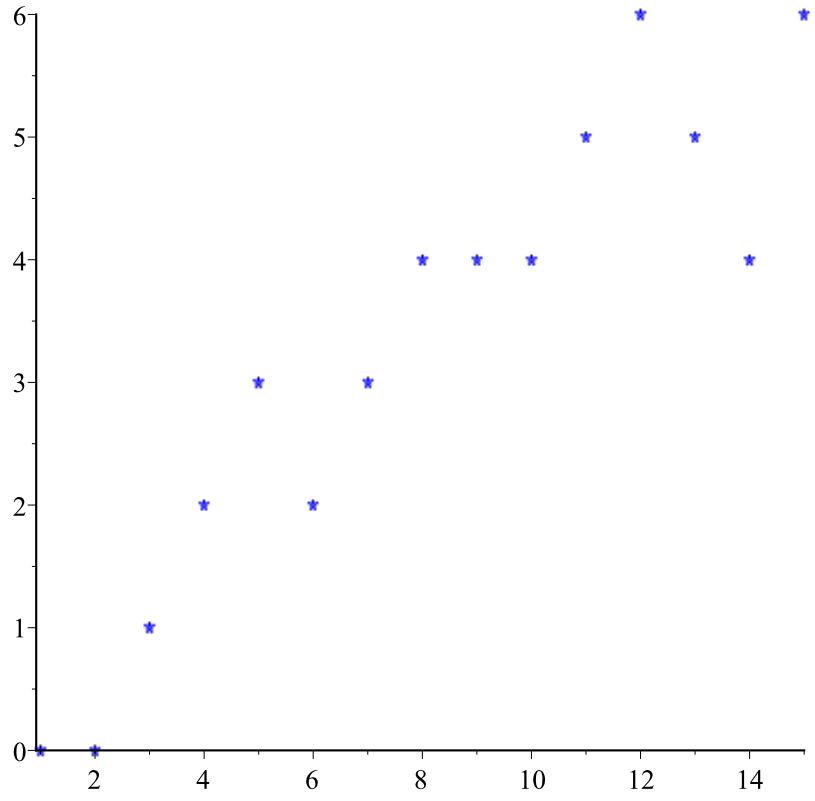
$$v_4 := 2$$

$$v_5 := 3$$
$$v_6 := 2$$
$$v_7 := 3$$
$$v_8 := 4$$
$$v_9 := 4$$
$$v_{10} := 4$$
$$v_{11} := 5$$
$$v_{12} := 6$$
$$v_{13} := 5$$
$$v_{14} := 4$$
$$v_{15} := 6 \quad \textbf{(4)}$$

```
> # yes, success
> x := Vector[row](15) :
  for a from 1 to 15 do
  x[a] := a;
  end do;
```

$$x_1 := 1$$
$$x_2 := 2$$
$$x_3 := 3$$
$$x_4 := 4$$
$$x_5 := 5$$
$$x_6 := 6$$
$$x_7 := 7$$
$$x_8 := 8$$
$$x_9 := 9$$
$$x_{10} := 10$$
$$x_{11} := 11$$
$$x_{12} := 12$$
$$x_{13} := 13$$
$$x_{14} := 14$$
$$x_{15} := 15 \quad \textbf{(5)}$$

```
> plot(x, v, style=point, symbol=asterisk, color=blue);
```




```
> # another success
> #3-16-17
>
```