

```

[ > restart:
[ > 3/6;
                                     1
                                     2
[ > p:=proc(n)
    local s,x,y;
    s:=0;
    for x from -n to n do
        for y from -n to n do
            if ggT(x,y)=1 then s:=s+1; end if;
        end do;
    end do;
    s / (2*n+1)^2;
end proc:
[ > p(3);
                                     0
[ > ggT:=proc(x,y)
    if x<0 or y<0 then return procname(abs(x),abs(y)); end if;
    if x<y then return procname(y,x); end if;
    if y=0 then return x; end if;
    procname( y, x mod y );
end proc:
[ > ggT(3,6);
                                     3
[ > ggT(5,0);
                                     5
[ > ggT(4,8);
                                     4
[ > p(3);
                                     32
                                     49
[ > igcd(4,8);
                                     4
[ > p:=proc(n)
    local s,x,y;
    s:=0;
    for x from -n to n do
        for y from -n to n do
            if igcd(x,y)=1 then s:=s+1; end if;
        end do;
    end do;
    s / (2*n+1)^2;
end proc:
[ > for n from 10 to 100 by 10 do
    n,p(n);
end do;
[ > for n from 10 to 100 by 10 do
    n,evalf(p(n));
end do;

```

10, 0.5804988662

```
20, 0.6091612136
30, 0.5976887933
40, 0.5974698979
50, 0.6069993138
60, 0.6021446622
70, 0.6011770032
80, 0.6067667142
90, 0.6055981197
100, 0.6027573575
```

```
> for n from 100 to 1000 by 100 do
  n,evalf(p(n));
end do;
```

```
100, 0.6027573575
200, 0.6085534294
300, 0.6068200254
400, 0.6069566600
500, 0.6077119684
600, 0.6073207104
```

Warning, computation interrupted

```
> p:=proc(n)
  local s,x,y;
  s:=8;
  for x from 1 to n do
    for y from 1 to x-1 do
      if igcd(x,y)=1 then s:=s+8; end if;
    end do;
  end do;
  s / (2*n+1)^2;
end proc;
```

```
> p(3);
```

```

$$\frac{32}{49}$$

```

```
> p(1);
```

```

$$\frac{8}{9}$$

```

```
> for n from 100 to 1000 by 100 do
  n,evalf(p(n));
end do;
```

```
100, 0.6027573575
200, 0.6085534294
300, 0.6068200254
400, 0.6069566600
500, 0.6077119684
600, 0.6073207104
700, 0.6073687552
```

```
800, 0.6078337204  
900, 0.6075371169  
1000, 0.6077760720
```

```
[ > evalf(p(10000));
```

```
0.6078889296
```

```
[ > P:=1/sum( 1/d^2, d=1..infinity );
```

$$P := \frac{6}{\pi^2}$$

```
[ > evalf(P);
```

```
0.6079271016
```

```
[ >
```