```
mm[n_, a_, b_] := mm[n, a, b] = If[ Mod[n, a] == 0, a, 0] - If[Mod[n, b] == 0, b, 0]
Sum[ N[mm[n, 2, 3] / n], {n, 1, 100 000}]
```

0.40547

```
E^0.4054701080498337`
```

1.50001

```
Sum[ N[mm[n, 3, 2] / n], {n, 1, 100 000}]
```

-0.40547

```
E^-0.4054701080498337`
```

0.666663

```
Sum[ N[mm[n, 9, 8] / n], {n, 1, 100 000}]
```

-0.117788

```
E^-0.11778803539805958`
```

0.888884

```
8. / 9
```

0.888889

```
Grid[Table[{N[Log[j / k]], Sum[N[mm[n, k, j] / n], {n, 1, 10 000}]}, {k, 1, 20}, {j, 1, 7}]]
```

{0., 0.}	{0.693147, 0.693097}	{1.09861, 1.09861}	{1.38629, 1.38614}	{1.60944, 1.60924}	{1.79176, 1.79191}	{1.94591, 1.94601}
{−0.693147, −0.693097}	{0., 0.}	{0.405465, 0.405515}	{0.693147, 0.693047}	{0.916291, 0.916141}	{1.09861, 1.09881}	{1.25276, 1.25291}
{−1.09861, −1.09861}	{−0.405465, −0.405515}	{0., 0.}	{0.287682, 0.287532}	{0.510826, 0.510626}	{0.693147, 0.693297}	{0.847298, 0.847398}
{−1.38629, −1.38614}	{−0.693147, −0.693047}	{−0.287682, −0.287532}	{0., 0.}	{0.223144, 0.223094}	{0.405465, 0.405765}	{0.559616, 0.559866}
{−1.60944, −1.60924}	{−0.916291, −0.916141}	{−0.510826, −0.510626}	{−0.223144, −0.223094}	{0., 0.}	{0.182322, 0.182672}	{0.336472, 0.336772}
{−1.79176, −1.79191}	{−1.09861, −1.09881}	{−0.693147, −0.693297}	{−0.405465, −0.405765}	{−0.182322, −0.182672}	{0., 0.}	{0.154151, 0.154101}
{−1.94591, −1.94601}	{−1.25276, −1.25291}	{−0.847298, −0.847398}	{−0.559616, −0.559866}	{−0.336472, −0.336772}	{−0.154151, −0.154101}	{0., 0.}
{−2.07944, −2.07909}	{−1.38629, −1.38599}	{−0.980829, −0.980479}	{−0.693147, −0.692947}	{−0.470004, −0.469854}	{−0.287682, −0.287182}	{−0.133531, −0.133081}
{−2.19722, −2.19692}	{−1.50408, −1.50383}	{−1.09861, −1.09831}	{−0.81093, −0.81078}	{−0.587787, −0.587687}	{−0.405465, −0.405015}	{−0.251314, −0.250914}
{−2.30259, −2.30214}	{−1.60944, −1.60904}	{−1.20397, −1.20352}	{−0.916291, −0.915991}	{−0.693147, −0.692897}	{−0.510826, −0.510226}	{−0.356675, −0.356125}
{−2.3979, −2.3975}	{−1.70475, −1.7044}	{−1.29928, −1.29888}	{−1.0116, −1.01135}	{−0.788457, −0.788257}	{−0.606136, −0.605586}	{−0.451985, −0.451485}
{−2.48491, −2.48476}	{−1.79176, −1.79166}	{−1.38629, −1.38614}	{−1.09861, −1.09861}	{−0.875469, −0.875519}	{−0.693147, −0.692847}	{−0.538997, −0.538746}
{−2.56495, −2.56465}	{−1.8718, −1.87155}	{−1.46634, −1.46604}	{−1.17865, −1.1785}	{−0.955511, −0.955411}	{−0.77319, −0.77274}	{−0.619039, −0.618639}
{−2.63906, −2.63881}	{−1.94591, −1.94571}	{−1.54045, −1.5402}	{−1.25276, −1.25266}	{−1.02962, −1.02957}	{−0.847298, −0.846898}	{−0.693147, −0.692797}
{−2.70805, −2.70835}	{−2.0149, −2.01525}	{−1.60944, −1.60974}	{−1.32176, −1.32221}	{−1.09861, −1.09911}	{−0.916291, −0.916441}	{−0.76214, −0.76234}
{−2.77259, −2.77184}	{−2.07944, −2.07874}	{−1.67398, −1.67323}	{−1.38629, −1.38569}	{−1.16315, −1.1626}	{−0.980829, −0.979929}	{−0.826679, −0.825829}
{−2.83321, −2.83281}	{−2.14007, −2.13972}	{−1.7346, −1.7342}	{−1.44692, −1.44667}	{−1.22378, −1.22358}	{−1.04145, −1.0409}	{−0.887303, −0.886803}
{−2.89037, −2.89052}	{−2.19722, −2.19742}	{−1.79176, −1.79191}	{−1.50408, −1.50438}	{−1.28093, −1.28128}	{−1.09861, −1.09861}	{−0.944462, −0.944511}
{−2.94444, −2.94414}	{−2.25129, −2.25104}	{−1.84583, −1.84553}	{−1.55814, −1.55799}	{−1.335, −1.3349}	{−1.15268, −1.15223}	{−0.998529, −0.998129}
{−2.99573, −2.99478}	{−2.30259, −2.30169}	{−1.89712, −1.89617}	{−1.60944, −1.60864}	{−1.38629, −1.38554}	{−1.20397, −1.20287}	{−1.04982, −1.04877}

```
Sum[(-1)^j / (2 j + 1), {j, 0, Infinity}]
```

$$\frac{\pi}{4}$$

```
N[Sum[mm[j, 4, 1] / (2 j + 1), {j, 0, 500 000}]]
```

2.51935

```
2.51934563807327` / Pi
```

0.801933

```
N[Sum[ mm[j, 1, 4] / (2 j + 1), {j, 0, 100 000}]]
```

```
-2.51935
```

```
Pi^2 / N[Sum[ mm[j, 2, 9] / j^2, {j, 1, 100 000}]]
```

```
15.4286
```

```
FullSimplify[
 Sum[ 1 / (4 j + 1)^2 + 1 / (4 j + 2)^2 + 1 / (4 j + 3)^2 - 3 / (4 j + 4)^2, {j, 0, Infinity}]]
```

$$\frac{\pi^2}{8}$$

```
N[π^2/8]
```

```
1.2337
```

```
Pi^2 / 72.
```

```
0.137078
```

```
40 * 41
```

```
9840 / 1640
```

```
6
```

```
140 * 141
```