

$\theta \leq 180^\circ$	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	
0'	0,00	<u>4,7615</u>	<u>3,3046</u>	<u>3,6852</u>	<u>2,1218</u>	<u>2,1903</u>	<u>2,2739</u>	<u>2,3727</u>	<u>2,4866</u>	<u>2,6156</u>	60'
2'	<u>5,0085</u>	<u>4,8131</u>	<u>3,3148</u>	<u>3,7005</u>	<u>2,1238</u>	<u>2,1928</u>	<u>2,2770</u>	<u>2,3762</u>	<u>2,4907</u>	<u>2,6201</u>	58'
4'	<u>5,0338</u>	<u>4,8664</u>	<u>3,3252</u>	<u>3,7160</u>	<u>2,1259</u>	<u>2,1954</u>	<u>2,2800</u>	<u>2,3798</u>	<u>2,4947</u>	<u>2,6247</u>	56'
6'	<u>5,0762</u>	<u>4,9214</u>	<u>3,3358</u>	<u>3,7317</u>	<u>2,1280</u>	<u>2,1979</u>	<u>2,2831</u>	<u>2,3834</u>	<u>2,4988</u>	<u>2,6293</u>	54'
8'	<u>5,1354</u>	<u>4,9781</u>	<u>3,3465</u>	<u>3,7475</u>	<u>2,1300</u>	<u>2,2005</u>	<u>2,2862</u>	<u>2,3870</u>	<u>2,5029</u>	<u>2,6339</u>	52'
10'	<u>5,2115</u>	<u>3,1037</u>	<u>3,3575</u>	<u>3,7635</u>	<u>2,1322</u>	<u>2,2032</u>	<u>2,2893</u>	<u>2,3906</u>	<u>2,5070</u>	<u>2,6385</u>	50'
12'	<u>5,3046</u>	<u>3,1097</u>	<u>3,3685</u>	<u>3,7796</u>	<u>2,1343</u>	<u>2,2058</u>	<u>2,2925</u>	<u>2,3943</u>	<u>2,5112</u>	<u>2,6432</u>	48'
14'	<u>5,4146</u>	<u>3,1158</u>	<u>3,3798</u>	<u>3,7959</u>	<u>2,1364</u>	<u>2,2084</u>	<u>2,2956</u>	<u>2,3979</u>	<u>2,5153</u>	<u>2,6478</u>	46'
16'	<u>5,5415</u>	<u>3,1222</u>	<u>3,3912</u>	<u>3,8124</u>	<u>2,1386</u>	<u>2,2111</u>	<u>2,2988</u>	<u>2,4016</u>	<u>2,5195</u>	<u>2,6525</u>	44'
18'	<u>5,6854</u>	<u>3,1287</u>	<u>3,4028</u>	<u>3,8291</u>	<u>2,1407</u>	<u>2,2138</u>	<u>2,3020</u>	<u>2,4053</u>	<u>2,5237</u>	<u>2,6572</u>	42'
20'	<u>5,8462</u>	<u>3,1354</u>	<u>3,4146</u>	<u>3,8459</u>	<u>2,1429</u>	<u>2,2165</u>	<u>2,3052</u>	<u>2,4090</u>	<u>2,5279</u>	<u>2,6619</u>	40'
22'	<u>4,1024</u>	<u>3,1422</u>	<u>3,4265</u>	<u>3,8629</u>	<u>2,1451</u>	<u>2,2192</u>	<u>2,3084</u>	<u>2,4127</u>	<u>2,5321</u>	<u>2,6666</u>	38'
24'	<u>4,1218</u>	<u>3,1493</u>	<u>3,4386</u>	<u>3,8801</u>	<u>2,1474</u>	<u>2,2219</u>	<u>2,3116</u>	<u>2,4164</u>	<u>2,5364</u>	<u>2,6714</u>	36'
26'	<u>4,1430</u>	<u>3,1564</u>	<u>3,4509</u>	<u>3,8974</u>	<u>2,1496</u>	<u>2,2246</u>	<u>2,3149</u>	<u>2,4202</u>	<u>2,5406</u>	<u>2,6762</u>	34'
28'	<u>4,1658</u>	<u>3,1638</u>	<u>3,4633</u>	<u>3,9149</u>	<u>2,1519</u>	<u>2,2274</u>	<u>2,3181</u>	<u>2,4240</u>	<u>2,5449</u>	<u>2,6809</u>	32'
30'	<u>4,1904</u>	<u>3,1713</u>	<u>3,4759</u>	<u>3,9326</u>	<u>2,1541</u>	<u>2,2302</u>	<u>2,3214</u>	<u>2,4278</u>	<u>2,5492</u>	<u>2,6857</u>	30'
32'	<u>4,2166</u>	<u>3,1790</u>	<u>3,4887</u>	<u>3,9504</u>	<u>2,1564</u>	<u>2,2330</u>	<u>2,3247</u>	<u>2,4316</u>	<u>2,5535</u>	<u>2,6905</u>	28'
34'	<u>4,2445</u>	<u>3,1869</u>	<u>3,5016</u>	<u>3,9685</u>	<u>2,1587</u>	<u>2,2358</u>	<u>2,3280</u>	<u>2,4354</u>	<u>2,5578</u>	<u>2,6954</u>	26'
36'	<u>4,2742</u>	<u>3,1949</u>	<u>3,5147</u>	<u>3,9866</u>	<u>2,1611</u>	<u>2,2386</u>	<u>2,3314</u>	<u>2,4392</u>	<u>2,5622</u>	<u>2,7002</u>	24'
38'	<u>4,3055</u>	<u>3,2031</u>	<u>3,5280</u>	<u>2,1005</u>	<u>2,1634</u>	<u>2,2415</u>	<u>2,3347</u>	<u>2,4431</u>	<u>2,5665</u>	<u>2,7051</u>	22'
40'	<u>4,3385</u>	<u>3,2115</u>	<u>3,5414</u>	<u>2,1024</u>	<u>2,1658</u>	<u>2,2443</u>	<u>2,3381</u>	<u>2,4470</u>	<u>2,5709</u>	<u>2,7099</u>	20'
42'	<u>4,3732</u>	<u>3,2201</u>	<u>3,5551</u>	<u>2,1042</u>	<u>2,1681</u>	<u>2,2472</u>	<u>2,3415</u>	<u>2,4508</u>	<u>2,5753</u>	<u>2,7148</u>	18'
44'	<u>4,4095</u>	<u>3,2288</u>	<u>3,5688</u>	<u>2,1061</u>	<u>2,1705</u>	<u>2,2501</u>	<u>2,3449</u>	<u>2,4547</u>	<u>2,5797</u>	<u>2,7197</u>	16'
46'	<u>4,4476</u>	<u>3,2377</u>	<u>3,5828</u>	<u>2,1080</u>	<u>2,1729</u>	<u>2,2530</u>	<u>2,3483</u>	<u>2,4587</u>	<u>2,5841</u>	<u>2,7247</u>	14'
48'	<u>4,4874</u>	<u>3,2467</u>	<u>3,5969</u>	<u>2,1099</u>	<u>2,1754</u>	<u>2,2560</u>	<u>2,3517</u>	<u>2,4626</u>	<u>2,5886</u>	<u>2,7296</u>	12'
50'	<u>4,5288</u>	<u>3,2559</u>	<u>3,6112</u>	<u>2,1119</u>	<u>2,1778</u>	<u>2,2589</u>	<u>2,3552</u>	<u>2,4666</u>	<u>2,5930</u>	<u>2,7346</u>	10'
52'	<u>4,5720</u>	<u>3,2653</u>	<u>3,6257</u>	<u>2,1138</u>	<u>2,1803</u>	<u>2,2619</u>	<u>2,3586</u>	<u>2,4705</u>	<u>2,5975</u>	<u>2,7395</u>	8'
54'	<u>4,6168</u>	<u>3,2749</u>	<u>3,6403</u>	<u>2,1158</u>	<u>2,1827</u>	<u>2,2649</u>	<u>2,3621</u>	<u>2,4745</u>	<u>2,6020</u>	<u>2,7445</u>	6'
56'	<u>4,6634</u>	<u>3,2846</u>	<u>3,6551</u>	<u>2,1178</u>	<u>2,1852</u>	<u>2,2679</u>	<u>2,3656</u>	<u>2,4785</u>	<u>2,6065</u>	<u>2,7495</u>	4'
58'	<u>4,7116</u>	<u>3,2945</u>	<u>3,6701</u>	<u>2,1198</u>	<u>2,1877</u>	<u>2,2709</u>	<u>2,3692</u>	<u>2,4826</u>	<u>2,6110</u>	<u>2,7546</u>	2'
60'	<u>4,7615</u>	<u>3,3046</u>	<u>3,6852</u>	<u>2,1218</u>	<u>2,1903</u>	<u>2,2739</u>	<u>2,3727</u>	<u>2,4866</u>	<u>2,6156</u>	<u>2,7596</u>	0'
	359°	358°	357°	356°	355°	354°	353°	352°	351°	350°	$180^\circ \leq \theta$

Usage: $\text{hav}(358^\circ 42') = \text{hav}(1^\circ 18') = 0.0001287$ denoted as 3,1287

$\theta \leq 180^\circ$	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
$0'$	<u>2,7596</u>	<u>2,9186</u>	<u>1,1093</u>	<u>1,1281</u>	<u>1,1485</u>	<u>1,1704</u>	<u>1,1937</u>	<u>1,2185</u>	<u>1,2447</u>	<u>1,2724</u>	$60'$
$2'$	<u>2,7647</u>	<u>2,9242</u>	<u>1,1099</u>	<u>1,1288</u>	<u>1,1492</u>	<u>1,1711</u>	<u>1,1945</u>	<u>1,2193</u>	<u>1,2456</u>	<u>1,2734</u>	$58'$
$4'$	<u>2,7697</u>	<u>2,9298</u>	<u>1,1105</u>	<u>1,1295</u>	<u>1,1499</u>	<u>1,1719</u>	<u>1,1953</u>	<u>1,2202</u>	<u>1,2465</u>	<u>1,2743</u>	$56'$
$6'$	<u>2,7748</u>	<u>2,9354</u>	<u>1,1111</u>	<u>1,1301</u>	<u>1,1506</u>	<u>1,1726</u>	<u>1,1961</u>	<u>1,2210</u>	<u>1,2474</u>	<u>1,2753</u>	$54'$
$8'$	<u>2,7800</u>	<u>2,9410</u>	<u>1,1117</u>	<u>1,1308</u>	<u>1,1513</u>	<u>1,1734</u>	<u>1,1969</u>	<u>1,2219</u>	<u>1,2483</u>	<u>1,2762</u>	$52'$
$10'$	<u>2,7851</u>	<u>2,9466</u>	<u>1,1123</u>	<u>1,1314</u>	<u>1,1521</u>	<u>1,1742</u>	<u>1,1977</u>	<u>1,2227</u>	<u>1,2492</u>	<u>1,2772</u>	$50'$
$12'$	<u>2,7902</u>	<u>2,9522</u>	<u>1,1129</u>	<u>1,1321</u>	<u>1,1528</u>	<u>1,1749</u>	<u>1,1985</u>	<u>1,2236</u>	<u>1,2501</u>	<u>1,2781</u>	$48'$
$14'$	<u>2,7954</u>	<u>2,9579</u>	<u>1,1135</u>	<u>1,1328</u>	<u>1,1535</u>	<u>1,1757</u>	<u>1,1993</u>	<u>1,2245</u>	<u>1,2510</u>	<u>1,2791</u>	$46'$
$16'$	<u>2,8006</u>	<u>2,9636</u>	<u>1,1142</u>	<u>1,1334</u>	<u>1,1542</u>	<u>1,1764</u>	<u>1,2002</u>	<u>1,2253</u>	<u>1,2520</u>	<u>1,2800</u>	$44'$
$18'$	<u>2,8057</u>	<u>2,9693</u>	<u>1,1148</u>	<u>1,1341</u>	<u>1,1549</u>	<u>1,1772</u>	<u>1,2010</u>	<u>1,2262</u>	<u>1,2529</u>	<u>1,2810</u>	$42'$
$20'$	<u>2,8110</u>	<u>2,9750</u>	<u>1,1154</u>	<u>1,1348</u>	<u>1,1556</u>	<u>1,1780</u>	<u>1,2018</u>	<u>1,2271</u>	<u>1,2538</u>	<u>1,2820</u>	$40'$
$22'$	<u>2,8162</u>	<u>2,9807</u>	<u>1,1160</u>	<u>1,1354</u>	<u>1,1564</u>	<u>1,1788</u>	<u>1,2026</u>	<u>1,2279</u>	<u>1,2547</u>	<u>1,2829</u>	$38'$
$24'$	<u>2,8214</u>	<u>2,9864</u>	<u>1,1166</u>	<u>1,1361</u>	<u>1,1571</u>	<u>1,1795</u>	<u>1,2034</u>	<u>1,2288</u>	<u>1,2556</u>	<u>1,2839</u>	$36'$
$26'$	<u>2,8267</u>	<u>2,9922</u>	<u>1,1173</u>	<u>1,1368</u>	<u>1,1578</u>	<u>1,1803</u>	<u>1,2043</u>	<u>1,2297</u>	<u>1,2565</u>	<u>1,2849</u>	$34'$
$28'$	<u>2,8320</u>	<u>2,9980</u>	<u>1,1179</u>	<u>1,1375</u>	<u>1,1585</u>	<u>1,1811</u>	<u>1,2051</u>	<u>1,2305</u>	<u>1,2575</u>	<u>1,2858</u>	$32'$
$30'$	<u>2,8373</u>	<u>1,1004</u>	<u>1,1185</u>	<u>1,1382</u>	<u>1,1593</u>	<u>1,1818</u>	<u>1,2059</u>	<u>1,2314</u>	<u>1,2584</u>	<u>1,2868</u>	$30'$
$32'$	<u>2,8426</u>	<u>1,1010</u>	<u>1,1192</u>	<u>1,1388</u>	<u>1,1600</u>	<u>1,1826</u>	<u>1,2067</u>	<u>1,2323</u>	<u>1,2593</u>	<u>1,2878</u>	$28'$
$34'$	<u>2,8479</u>	<u>1,1015</u>	<u>1,1198</u>	<u>1,1395</u>	<u>1,1607</u>	<u>1,1834</u>	<u>1,2076</u>	<u>1,2332</u>	<u>1,2602</u>	<u>1,2887</u>	$26'$
$36'$	<u>2,8532</u>	<u>1,1021</u>	<u>1,1204</u>	<u>1,1402</u>	<u>1,1615</u>	<u>1,1842</u>	<u>1,2084</u>	<u>1,2340</u>	<u>1,2612</u>	<u>1,2897</u>	$24'$
$38'$	<u>2,8586</u>	<u>1,1027</u>	<u>1,1211</u>	<u>1,1409</u>	<u>1,1622</u>	<u>1,1850</u>	<u>1,2092</u>	<u>1,2349</u>	<u>1,2621</u>	<u>1,2907</u>	$22'$
$40'$	<u>2,8640</u>	<u>1,1033</u>	<u>1,1217</u>	<u>1,1416</u>	<u>1,1629</u>	<u>1,1858</u>	<u>1,2101</u>	<u>1,2358</u>	<u>1,2630</u>	<u>1,2917</u>	$20'$
$42'$	<u>2,8694</u>	<u>1,1039</u>	<u>1,1223</u>	<u>1,1423</u>	<u>1,1637</u>	<u>1,1865</u>	<u>1,2109</u>	<u>1,2367</u>	<u>1,2639</u>	<u>1,2926</u>	$18'$
$44'$	<u>2,8748</u>	<u>1,1045</u>	<u>1,1230</u>	<u>1,1429</u>	<u>1,1644</u>	<u>1,1873</u>	<u>1,2117</u>	<u>1,2376</u>	<u>1,2649</u>	<u>1,2936</u>	$16'$
$46'$	<u>2,8802</u>	<u>1,1051</u>	<u>1,1236</u>	<u>1,1436</u>	<u>1,1651</u>	<u>1,1881</u>	<u>1,2126</u>	<u>1,2385</u>	<u>1,2658</u>	<u>1,2946</u>	$14'$
$48'$	<u>2,8856</u>	<u>1,1057</u>	<u>1,1243</u>	<u>1,1443</u>	<u>1,1659</u>	<u>1,1889</u>	<u>1,2134</u>	<u>1,2394</u>	<u>1,2668</u>	<u>1,2956</u>	$12'$
$50'$	<u>2,8911</u>	<u>1,1063</u>	<u>1,1249</u>	<u>1,1450</u>	<u>1,1666</u>	<u>1,1897</u>	<u>1,2142</u>	<u>1,2402</u>	<u>1,2677</u>	<u>1,2966</u>	$10'$
$52'$	<u>2,8966</u>	<u>1,1069</u>	<u>1,1255</u>	<u>1,1457</u>	<u>1,1674</u>	<u>1,1905</u>	<u>1,2151</u>	<u>1,2411</u>	<u>1,2686</u>	<u>1,2976</u>	$8'$
$54'$	<u>2,9021</u>	<u>1,1075</u>	<u>1,1262</u>	<u>1,1464</u>	<u>1,1681</u>	<u>1,1913</u>	<u>1,2159</u>	<u>1,2420</u>	<u>1,2696</u>	<u>1,2986</u>	$6'$
$56'$	<u>2,9076</u>	<u>1,1081</u>	<u>1,1268</u>	<u>1,1471</u>	<u>1,1689</u>	<u>1,1921</u>	<u>1,2168</u>	<u>1,2429</u>	<u>1,2705</u>	<u>1,2996</u>	$4'$
$58'$	<u>2,9131</u>	<u>1,1087</u>	<u>1,1275</u>	<u>1,1478</u>	<u>1,1696</u>	<u>1,1929</u>	<u>1,2176</u>	<u>1,2438</u>	<u>1,2715</u>	<u>1,3005</u>	$2'$
$60'$	<u>2,9186</u>	<u>1,1093</u>	<u>1,1281</u>	<u>1,1485</u>	<u>1,1704</u>	<u>1,1937</u>	<u>1,2185</u>	<u>1,2447</u>	<u>1,2724</u>	<u>1,3015</u>	$0'$
	349°	348°	347°	346°	345°	344°	343°	342°	341°	340°	$180^\circ \leq \theta$

Usage: $hav(343^\circ 12') = hav(16^\circ 48') = 0.02134$ denoted as 1,2134

$\theta \leq 180^\circ$	20°	21°	22°	23°	24°	25°	26°	27°	28°	29°	
0'	<u>1,3015</u>	<u>1,3321</u>	<u>1,3641</u>	<u>1,3975</u>	<u>1,4323</u>	<u>1,4685</u>	<u>1,5060</u>	<u>1,5450</u>	<u>1,5853</u>	<u>1,6269</u>	60'
2'	<u>1,3025</u>	<u>1,3331</u>	<u>1,3652</u>	<u>1,3986</u>	<u>1,4335</u>	<u>1,4697</u>	<u>1,5073</u>	<u>1,5463</u>	<u>1,5866</u>	<u>1,6283</u>	58'
4'	<u>1,3035</u>	<u>1,3342</u>	<u>1,3663</u>	<u>1,3998</u>	<u>1,4346</u>	<u>1,4709</u>	<u>1,5086</u>	<u>1,5476</u>	<u>1,5880</u>	<u>1,6297</u>	56'
6'	<u>1,3045</u>	<u>1,3352</u>	<u>1,3674</u>	<u>1,4009</u>	<u>1,4358</u>	<u>1,4722</u>	<u>1,5099</u>	<u>1,5489</u>	<u>1,5894</u>	<u>1,6311</u>	54'
8'	<u>1,3055</u>	<u>1,3363</u>	<u>1,3685</u>	<u>1,4020</u>	<u>1,4370</u>	<u>1,4734</u>	<u>1,5111</u>	<u>1,5503</u>	<u>1,5907</u>	<u>1,6326</u>	52'
10'	<u>1,3065</u>	<u>1,3373</u>	<u>1,3695</u>	<u>1,4032</u>	<u>1,4382</u>	<u>1,4746</u>	<u>1,5124</u>	<u>1,5516</u>	<u>1,5921</u>	<u>1,6340</u>	50'
12'	<u>1,3075</u>	<u>1,3384</u>	<u>1,3706</u>	<u>1,4043</u>	<u>1,4394</u>	<u>1,4759</u>	<u>1,5137</u>	<u>1,5529</u>	<u>1,5935</u>	<u>1,6354</u>	48'
14'	<u>1,3085</u>	<u>1,3394</u>	<u>1,3717</u>	<u>1,4055</u>	<u>1,4406</u>	<u>1,4771</u>	<u>1,5150</u>	<u>1,5542</u>	<u>1,5949</u>	<u>1,6368</u>	46'
16'	<u>1,3095</u>	<u>1,3405</u>	<u>1,3728</u>	<u>1,4066</u>	<u>1,4418</u>	<u>1,4783</u>	<u>1,5163</u>	<u>1,5556</u>	<u>1,5962</u>	<u>1,6382</u>	44'
18'	<u>1,3106</u>	<u>1,3415</u>	<u>1,3740</u>	<u>1,4078</u>	<u>1,4430</u>	<u>1,4796</u>	<u>1,5176</u>	<u>1,5569</u>	<u>1,5976</u>	<u>1,6397</u>	42'
20'	<u>1,3116</u>	<u>1,3426</u>	<u>1,3751</u>	<u>1,4089</u>	<u>1,4442</u>	<u>1,4808</u>	<u>1,5189</u>	<u>1,5582</u>	<u>1,5990</u>	<u>1,6411</u>	40'
22'	<u>1,3126</u>	<u>1,3437</u>	<u>1,3762</u>	<u>1,4101</u>	<u>1,4454</u>	<u>1,4821</u>	<u>1,5201</u>	<u>1,5596</u>	<u>1,6004</u>	<u>1,6425</u>	38'
24'	<u>1,3136</u>	<u>1,3447</u>	<u>1,3773</u>	<u>1,4112</u>	<u>1,4466</u>	<u>1,4833</u>	<u>1,5214</u>	<u>1,5609</u>	<u>1,6018</u>	<u>1,6439</u>	36'
26'	<u>1,3146</u>	<u>1,3458</u>	<u>1,3784</u>	<u>1,4124</u>	<u>1,4478</u>	<u>1,4846</u>	<u>1,5227</u>	<u>1,5623</u>	<u>1,6031</u>	<u>1,6454</u>	34'
28'	<u>1,3156</u>	<u>1,3468</u>	<u>1,3795</u>	<u>1,4135</u>	<u>1,4490</u>	<u>1,4858</u>	<u>1,5240</u>	<u>1,5636</u>	<u>1,6045</u>	<u>1,6468</u>	32'
30'	<u>1,3166</u>	<u>1,3479</u>	<u>1,3806</u>	<u>1,4147</u>	<u>1,4502</u>	<u>1,4871</u>	<u>1,5253</u>	<u>1,5649</u>	<u>1,6059</u>	<u>1,6482</u>	30'
32'	<u>1,3177</u>	<u>1,3490</u>	<u>1,3817</u>	<u>1,4159</u>	<u>1,4514</u>	<u>1,4883</u>	<u>1,5266</u>	<u>1,5663</u>	<u>1,6073</u>	<u>1,6497</u>	28'
34'	<u>1,3187</u>	<u>1,3500</u>	<u>1,3828</u>	<u>1,4170</u>	<u>1,4526</u>	<u>1,4896</u>	<u>1,5279</u>	<u>1,5676</u>	<u>1,6087</u>	<u>1,6511</u>	26'
36'	<u>1,3197</u>	<u>1,3511</u>	<u>1,3839</u>	<u>1,4182</u>	<u>1,4538</u>	<u>1,4908</u>	<u>1,5292</u>	<u>1,5690</u>	<u>1,6101</u>	<u>1,6525</u>	24'
38'	<u>1,3207</u>	<u>1,3522</u>	<u>1,3851</u>	<u>1,4194</u>	<u>1,4550</u>	<u>1,4921</u>	<u>1,5305</u>	<u>1,5703</u>	<u>1,6115</u>	<u>1,6540</u>	22'
40'	<u>1,3218</u>	<u>1,3533</u>	<u>1,3862</u>	<u>1,4205</u>	<u>1,4562</u>	<u>1,4934</u>	<u>1,5318</u>	<u>1,5717</u>	<u>1,6129</u>	<u>1,6554</u>	20'
42'	<u>1,3228</u>	<u>1,3543</u>	<u>1,3873</u>	<u>1,4217</u>	<u>1,4575</u>	<u>1,4946</u>	<u>1,5331</u>	<u>1,5730</u>	<u>1,6143</u>	<u>1,6568</u>	18'
44'	<u>1,3238</u>	<u>1,3554</u>	<u>1,3884</u>	<u>1,4229</u>	<u>1,4587</u>	<u>1,4959</u>	<u>1,5345</u>	<u>1,5744</u>	<u>1,6157</u>	<u>1,6583</u>	16'
46'	<u>1,3248</u>	<u>1,3565</u>	<u>1,3896</u>	<u>1,4240</u>	<u>1,4599</u>	<u>1,4971</u>	<u>1,5358</u>	<u>1,5757</u>	<u>1,6171</u>	<u>1,6597</u>	14'
48'	<u>1,3259</u>	<u>1,3576</u>	<u>1,3907</u>	<u>1,4252</u>	<u>1,4611</u>	<u>1,4984</u>	<u>1,5371</u>	<u>1,5771</u>	<u>1,6185</u>	<u>1,6612</u>	12'
50'	<u>1,3269</u>	<u>1,3587</u>	<u>1,3918</u>	<u>1,4264</u>	<u>1,4623</u>	<u>1,4997</u>	<u>1,5384</u>	<u>1,5785</u>	<u>1,6199</u>	<u>1,6626</u>	10'
52'	<u>1,3279</u>	<u>1,3597</u>	<u>1,3929</u>	<u>1,4276</u>	<u>1,4636</u>	<u>1,5009</u>	<u>1,5397</u>	<u>1,5798</u>	<u>1,6213</u>	<u>1,6641</u>	8'
54'	<u>1,3290</u>	<u>1,3608</u>	<u>1,3941</u>	<u>1,4287</u>	<u>1,4648</u>	<u>1,5022</u>	<u>1,5410</u>	<u>1,5812</u>	<u>1,6227</u>	<u>1,6655</u>	6'
56'	<u>1,3300</u>	<u>1,3619</u>	<u>1,3952</u>	<u>1,4299</u>	<u>1,4660</u>	<u>1,5035</u>	<u>1,5423</u>	<u>1,5825</u>	<u>1,6241</u>	<u>1,6670</u>	4'
58'	<u>1,3311</u>	<u>1,3630</u>	<u>1,3963</u>	<u>1,4311</u>	<u>1,4672</u>	<u>1,5048</u>	<u>1,5436</u>	<u>1,5839</u>	<u>1,6255</u>	<u>1,6684</u>	2'
60'	<u>1,3321</u>	<u>1,3641</u>	<u>1,3975</u>	<u>1,4323</u>	<u>1,4685</u>	<u>1,5060</u>	<u>1,5450</u>	<u>1,5853</u>	<u>1,6269</u>	<u>1,6699</u>	0'
	339°	338°	337°	336°	335°	334°	333°	332°	331°	330°	$180^\circ \leq \theta$

Usage: $\text{hav}(330^\circ 56') = \text{hav}(29^\circ 04') = 0.06283$ denoted as 1,6283

$\theta \leq 180^\circ$	30°	31°	32°	33°	34°	35°	36°	37°	38°	39°	
0'	<u>1,6699</u>	<u>1,7142</u>	<u>1,7598</u>	<u>1,8066</u>	<u>1,8548</u>	<u>1,9042</u>	<u>1,9549</u>	,10068	,10599	,11143	60'
2'	<u>1,6713</u>	<u>1,7157</u>	<u>1,7613</u>	<u>1,8082</u>	<u>1,8564</u>	<u>1,9059</u>	<u>1,9566</u>	,10086	,10617	,11161	58'
4'	<u>1,6728</u>	<u>1,7172</u>	<u>1,7628</u>	<u>1,8098</u>	<u>1,8581</u>	<u>1,9076</u>	<u>1,9583</u>	,10103	,10635	,11179	56'
6'	<u>1,6742</u>	<u>1,7187</u>	<u>1,7644</u>	<u>1,8114</u>	<u>1,8597</u>	<u>1,9093</u>	<u>1,9601</u>	,10121	,10653	,11198	54'
8'	<u>1,6757</u>	<u>1,7202</u>	<u>1,7659</u>	<u>1,8130</u>	<u>1,8613</u>	<u>1,9109</u>	<u>1,9618</u>	,10138	,10671	,11216	52'
10'	<u>1,6772</u>	<u>1,7217</u>	<u>1,7675</u>	<u>1,8146</u>	<u>1,8630</u>	<u>1,9126</u>	<u>1,9635</u>	,10156	,10689	,11234	50'
12'	<u>1,6786</u>	<u>1,7232</u>	<u>1,7690</u>	<u>1,8162</u>	<u>1,8646</u>	<u>1,9143</u>	<u>1,9652</u>	,10174	,10707	,11253	48'
14'	<u>1,6801</u>	<u>1,7247</u>	<u>1,7706</u>	<u>1,8178</u>	<u>1,8662</u>	<u>1,9160</u>	<u>1,9669</u>	,10191	,10725	,11271	46'
16'	<u>1,6816</u>	<u>1,7262</u>	<u>1,7721</u>	<u>1,8194</u>	<u>1,8679</u>	<u>1,9176</u>	<u>1,9686</u>	,10209	,10743	,11290	44'
18'	<u>1,6830</u>	<u>1,7277</u>	<u>1,7737</u>	<u>1,8210</u>	<u>1,8695</u>	<u>1,9193</u>	<u>1,9704</u>	,10226	,10761	,11308	42'
20'	<u>1,6845</u>	<u>1,7292</u>	<u>1,7752</u>	<u>1,8226</u>	<u>1,8711</u>	<u>1,9210</u>	<u>1,9721</u>	,10244	,10779	,11326	40'
22'	<u>1,6860</u>	<u>1,7307</u>	<u>1,7768</u>	<u>1,8242</u>	<u>1,8728</u>	<u>1,9227</u>	<u>1,9738</u>	,10262	,10797	,11345	38'
24'	<u>1,6874</u>	<u>1,7322</u>	<u>1,7784</u>	<u>1,8258</u>	<u>1,8744</u>	<u>1,9244</u>	<u>1,9755</u>	,10279	,10815	,11363	36'
26'	<u>1,6889</u>	<u>1,7338</u>	<u>1,7799</u>	<u>1,8274</u>	<u>1,8761</u>	<u>1,9260</u>	<u>1,9773</u>	,10297	,10833	,11382	34'
28'	<u>1,6904</u>	<u>1,7353</u>	<u>1,7815</u>	<u>1,8290</u>	<u>1,8777</u>	<u>1,9277</u>	<u>1,9790</u>	,10315	,10851	,11400	32'
30'	<u>1,6919</u>	<u>1,7368</u>	<u>1,7830</u>	<u>1,8306</u>	<u>1,8794</u>	<u>1,9294</u>	<u>1,9807</u>	,10332	,10870	,11419	30'
32'	<u>1,6933</u>	<u>1,7383</u>	<u>1,7846</u>	<u>1,8322</u>	<u>1,8810</u>	<u>1,9311</u>	<u>1,9824</u>	,10350	,10888	,11437	28'
34'	<u>1,6948</u>	<u>1,7398</u>	<u>1,7862</u>	<u>1,8338</u>	<u>1,8827</u>	<u>1,9328</u>	<u>1,9842</u>	,10368	,10906	,11456	26'
36'	<u>1,6963</u>	<u>1,7414</u>	<u>1,7877</u>	<u>1,8354</u>	<u>1,8843</u>	<u>1,9345</u>	<u>1,9859</u>	,10386	,10924	,11474	24'
38'	<u>1,6978</u>	<u>1,7429</u>	<u>1,7893</u>	<u>1,8370</u>	<u>1,8860</u>	<u>1,9362</u>	<u>1,9876</u>	,10403	,10942	,11493	22'
40'	<u>1,6993</u>	<u>1,7444</u>	<u>1,7909</u>	<u>1,8386</u>	<u>1,8876</u>	<u>1,9379</u>	<u>1,9894</u>	,10421	,10960	,11511	20'
42'	<u>1,7007</u>	<u>1,7459</u>	<u>1,7924</u>	<u>1,8402</u>	<u>1,8893</u>	<u>1,9396</u>	<u>1,9911</u>	,10439	,10978	,11530	18'
44'	<u>1,7022</u>	<u>1,7475</u>	<u>1,7940</u>	<u>1,8418</u>	<u>1,8909</u>	<u>1,9413</u>	<u>1,9929</u>	,10457	,10997	,11549	16'
46'	<u>1,7037</u>	<u>1,7490</u>	<u>1,7956</u>	<u>1,8435</u>	<u>1,8926</u>	<u>1,9430</u>	<u>1,9946</u>	,10474	,11015	,11567	14'
48'	<u>1,7052</u>	<u>1,7505</u>	<u>1,7972</u>	<u>1,8451</u>	<u>1,8943</u>	<u>1,9447</u>	<u>1,9963</u>	,10492	,11033	,11586	12'
50'	<u>1,7067</u>	<u>1,7521</u>	<u>1,7987</u>	<u>1,8467</u>	<u>1,8959</u>	<u>1,9464</u>	<u>1,9981</u>	,10510	,11051	,11604	10'
52'	<u>1,7082</u>	<u>1,7536</u>	<u>1,8003</u>	<u>1,8483</u>	<u>1,8976</u>	<u>1,9481</u>	<u>1,9998</u>	,10528	,11070	,11623	8'
54'	<u>1,7097</u>	<u>1,7551</u>	<u>1,8019</u>	<u>1,8499</u>	<u>1,8992</u>	<u>1,9498</u>	,10016	,10546	,11088	,11642	6'
56'	<u>1,7112</u>	<u>1,7567</u>	<u>1,8035</u>	<u>1,8516</u>	<u>1,9009</u>	<u>1,9515</u>	,10033	,10564	,11106	,11660	4'
58'	<u>1,7127</u>	<u>1,7582</u>	<u>1,8051</u>	<u>1,8532</u>	<u>1,9026</u>	<u>1,9532</u>	,10051	,10582	,11124	,11679	2'
60'	<u>1,7142</u>	<u>1,7598</u>	<u>1,8066</u>	<u>1,8548</u>	<u>1,9042</u>	<u>1,9549</u>	,10068	,10599	,11143	,11698	0'
	329°	328°	327°	326°	325°	324°	323°	322°	321°	320°	$180^\circ \leq \theta$

Usage: $\text{hav}(326^\circ 32') = \text{hav}(33^\circ 28') = 0.0829$ denoted as 1,8290

$\text{hav}(323^\circ 06') = \text{hav}(36^\circ 54') = 0.10016$ denoted as ,10016

$\theta \leq 180^\circ$	40°	41°	42°	43°	44°	45°	46°	47°	48°	49°	
$0'$,11698	,12265	,12843	,13432	,14033	,14645	,15267	,15900	,16543	,17197	$60'$
$2'$,11716	,12284	,12862	,13452	,14053	,14665	,15288	,15921	,16565	,17219	$58'$
$4'$,11735	,12303	,12882	,13472	,14073	,14686	,15309	,15943	,16587	,17241	$56'$
$6'$,11754	,12322	,12901	,13492	,14094	,14706	,15330	,15964	,16608	,17263	$54'$
$8'$,11773	,12341	,12921	,13512	,14114	,14727	,15351	,15985	,16630	,17285	$52'$
$10'$,11791	,12360	,12940	,13532	,14134	,14748	,15372	,16007	,16652	,17307	$50'$
$12'$,11810	,12379	,12960	,13552	,14154	,14768	,15393	,16028	,16673	,17329	$48'$
$14'$,11829	,12398	,12979	,13571	,14175	,14789	,15414	,16049	,16695	,17351	$46'$
$16'$,11848	,12418	,12999	,13591	,14195	,14810	,15435	,16071	,16717	,17373	$44'$
$18'$,11867	,12437	,13018	,13611	,14215	,14830	,15456	,16092	,16738	,17395	$42'$
$20'$,11885	,12456	,13038	,13631	,14236	,14851	,15477	,16113	,16760	,17417	$40'$
$22'$,11904	,12475	,13058	,13651	,14256	,14872	,15498	,16135	,16782	,17439	$38'$
$24'$,11923	,12494	,13077	,13671	,14276	,14892	,15519	,16156	,16804	,17461	$36'$
$26'$,11942	,12514	,13097	,13691	,14297	,14913	,15540	,16178	,16825	,17483	$34'$
$28'$,11961	,12533	,13116	,13711	,14317	,14934	,15561	,16199	,16847	,17505	$32'$
$30'$,11980	,12552	,13136	,13731	,14337	,14955	,15582	,16220	,16869	,17528	$30'$
$32'$,11999	,12571	,13156	,13751	,14358	,14975	,15603	,16242	,16891	,17550	$28'$
$34'$,12018	,12591	,13175	,13771	,14378	,14996	,15624	,16263	,16913	,17572	$26'$
$36'$,12036	,12610	,13195	,13791	,14399	,15017	,15646	,16285	,16934	,17594	$24'$
$38'$,12055	,12629	,13215	,13811	,14419	,15038	,15667	,16306	,16956	,17616	$22'$
$40'$,12074	,12649	,13235	,13832	,14440	,15058	,15688	,16328	,16978	,17638	$20'$
$42'$,12093	,12668	,13254	,13852	,14460	,15079	,15709	,16349	,17000	,17661	$18'$
$44'$,12112	,12687	,13274	,13872	,14480	,15100	,15730	,16371	,17022	,17683	$16'$
$46'$,12131	,12707	,13294	,13892	,14501	,15121	,15751	,16392	,17044	,17705	$14'$
$48'$,12150	,12726	,13314	,13912	,14521	,15142	,15773	,16414	,17066	,17727	$12'$
$50'$,12169	,12746	,13333	,13932	,14542	,15163	,15794	,16436	,17087	,17749	$10'$
$52'$,12188	,12765	,13353	,13952	,14562	,15183	,15815	,16457	,17109	,17772	$8'$
$54'$,12207	,12784	,13373	,13972	,14583	,15204	,15836	,16479	,17131	,17794	$6'$
$56'$,12226	,12804	,13393	,13993	,14604	,15225	,15858	,16500	,17153	,17816	$4'$
$58'$,12245	,12823	,13412	,14013	,14624	,15246	,15879	,16522	,17175	,17838	$2'$
$60'$,12265	,12843	,13432	,14033	,14645	,15267	,15900	,16543	,17197	,17861	$0'$
	319°	318°	317°	316°	315°	314°	313°	312°	311°	310°	$180^\circ \leq \theta$

Usage: $hav(315^\circ 02') = hav(44^\circ 58') = 0.14624$ denoted as ,14624

$\theta \leq 180^\circ$	50°	51°	52°	53°	54°	55°	56°	57°	58°	59°	
0'	,17861	,18534	,19217	,19909	,20611	,21321	,22040	,22768	,23504	,24248	60'
2'	,17883	,18557	,19240	,19932	,20634	,21345	,22064	,22792	,23529	,24273	58'
4'	,17905	,18579	,19263	,19956	,20658	,21369	,22089	,22817	,23553	,24298	56'
6'	,17928	,18602	,19286	,19979	,20681	,21393	,22113	,22841	,23578	,24323	54'
8'	,17950	,18624	,19309	,20002	,20705	,21417	,22137	,22866	,23603	,24348	52'
10'	,17972	,18647	,19332	,20026	,20729	,21440	,22161	,22890	,23627	,24373	50'
12'	,17995	,18670	,19355	,20049	,20752	,21464	,22185	,22915	,23652	,24398	48'
14'	,18017	,18692	,19378	,20072	,20776	,21488	,22209	,22939	,23677	,24423	46'
16'	,18039	,18715	,19401	,20095	,20799	,21512	,22234	,22964	,23702	,24448	44'
18'	,18062	,18738	,19424	,20119	,20823	,21536	,22258	,22988	,23726	,24473	42'
20'	,18084	,18761	,19447	,20142	,20847	,21560	,22282	,23012	,23751	,24498	40'
22'	,18106	,18783	,19470	,20165	,20870	,21584	,22306	,23037	,23776	,24523	38'
24'	,18129	,18806	,19493	,20189	,20894	,21608	,22330	,23061	,23801	,24548	36'
26'	,18151	,18829	,19516	,20212	,20918	,21632	,22355	,23086	,23825	,24573	34'
28'	,18174	,18852	,19539	,20235	,20941	,21656	,22379	,23110	,23850	,24598	32'
30'	,18196	,18874	,19562	,20259	,20965	,21680	,22403	,23135	,23875	,24623	30'
32'	,18219	,18897	,19585	,20282	,20989	,21704	,22427	,23160	,23900	,24648	28'
34'	,18241	,18920	,19608	,20306	,21012	,21728	,22452	,23184	,23925	,24673	26'
36'	,18263	,18943	,19631	,20329	,21036	,21752	,22476	,23209	,23950	,24698	24'
38'	,18286	,18965	,19654	,20352	,21060	,21776	,22500	,23233	,23974	,24723	22'
40'	,18308	,18988	,19677	,20376	,21083	,21800	,22525	,23258	,23999	,24749	20'
42'	,18331	,19011	,19701	,20399	,21107	,21824	,22549	,23282	,24024	,24774	18'
44'	,18353	,19034	,19724	,20423	,21131	,21848	,22573	,23307	,24049	,24799	16'
46'	,18376	,19057	,19747	,20446	,21155	,21872	,22598	,23332	,24074	,24824	14'
48'	,18399	,19080	,19770	,20470	,21178	,21896	,22622	,23356	,24099	,24849	12'
50'	,18421	,19102	,19793	,20493	,21202	,21920	,22646	,23381	,24124	,24874	10'
52'	,18444	,19125	,19816	,20517	,21226	,21944	,22671	,23405	,24148	,24899	8'
54'	,18466	,19148	,19840	,20540	,21250	,21968	,22695	,23430	,24173	,24924	6'
56'	,18489	,19171	,19863	,20564	,21274	,21992	,22719	,23455	,24198	,24950	4'
58'	,18511	,19194	,19886	,20587	,21297	,22016	,22744	,23479	,24223	,24975	2'
60'	,18534	,19217	,19909	,20611	,21321	,22040	,22768	,23504	,24248	,25000	0'
	309°	308°	307°	306°	305°	304°	303°	302°	301°	300°	$180^\circ \leq \theta$

Usage: $\text{hav}(309^\circ 26') = \text{hav}(50^\circ 34') = 0.18241$ denoted as ,18241

$\theta \leq 180^\circ$	60°	61°	62°	63°	64°	65°	66°	67°	68°	69°	
$0'$,25000	,25760	,26526	,27300	,28081	,28869	,29663	,30463	,31270	,32082	$60'$
$2'$,25025	,25785	,26552	,27326	,28108	,28895	,29690	,30490	,31297	,32109	$58'$
$4'$,25050	,25810	,26578	,27352	,28134	,28922	,29716	,30517	,31324	,32136	$56'$
$6'$,25076	,25836	,26604	,27378	,28160	,28948	,29743	,30544	,31351	,32163	$54'$
$8'$,25101	,25861	,26629	,27404	,28186	,28975	,29770	,30571	,31378	,32190	$52'$
$10'$,25126	,25887	,26655	,27430	,28212	,29001	,29796	,30597	,31405	,32217	$50'$
$12'$,25151	,25912	,26681	,27456	,28238	,29027	,29823	,30624	,31432	,32245	$48'$
$14'$,25177	,25938	,26706	,27482	,28265	,29054	,29849	,30651	,31459	,32272	$46'$
$16'$,25202	,25963	,26732	,27508	,28291	,29080	,29876	,30678	,31486	,32299	$44'$
$18'$,25227	,25989	,26758	,27534	,28317	,29107	,29903	,30705	,31513	,32326	$42'$
$20'$,25252	,26014	,26784	,27560	,28343	,29133	,29929	,30732	,31540	,32353	$40'$
$22'$,25278	,26040	,26809	,27586	,28369	,29160	,29956	,30758	,31567	,32381	$38'$
$24'$,25303	,26065	,26835	,27612	,28396	,29186	,29983	,30785	,31594	,32408	$36'$
$26'$,25328	,26091	,26861	,27638	,28422	,29212	,30009	,30812	,31621	,32435	$34'$
$28'$,25354	,26117	,26887	,27664	,28448	,29239	,30036	,30839	,31648	,32462	$32'$
$30'$,25379	,26142	,26913	,27690	,28474	,29265	,30063	,30866	,31675	,32490	$30'$
$32'$,25404	,26168	,26938	,27716	,28501	,29292	,30089	,30893	,31702	,32517	$28'$
$34'$,25429	,26193	,26964	,27742	,28527	,29318	,30116	,30920	,31729	,32544	$26'$
$36'$,25455	,26219	,26990	,27768	,28553	,29345	,30143	,30946	,31756	,32571	$24'$
$38'$,25480	,26244	,27016	,27794	,28580	,29371	,30169	,30973	,31783	,32599	$22'$
$40'$,25506	,26270	,27042	,27820	,28606	,29398	,30196	,31000	,31810	,32626	$20'$
$42'$,25531	,26296	,27068	,27846	,28632	,29424	,30223	,31027	,31837	,32653	$18'$
$44'$,25556	,26321	,27093	,27873	,28658	,29451	,30249	,31054	,31865	,32681	$16'$
$46'$,25582	,26347	,27119	,27899	,28685	,29477	,30276	,31081	,31892	,32708	$14'$
$48'$,25607	,26372	,27145	,27925	,28711	,29504	,30303	,31108	,31919	,32735	$12'$
$50'$,25632	,26398	,27171	,27951	,28737	,29530	,30330	,31135	,31946	,32762	$10'$
$52'$,25658	,26424	,27197	,27977	,28764	,29557	,30356	,31162	,31973	,32790	$8'$
$54'$,25683	,26449	,27223	,28003	,28790	,29583	,30383	,31189	,32000	,32817	$6'$
$56'$,25709	,26475	,27249	,28029	,28816	,29610	,30410	,31216	,32027	,32844	$4'$
$58'$,25734	,26501	,27275	,28055	,28843	,29637	,30437	,31243	,32054	,32872	$2'$
$60'$,25760	,26526	,27300	,28081	,28869	,29663	,30463	,31270	,32082	,32899	$0'$
	299°	298°	297°	296°	295°	294°	293°	292°	291°	290°	$180^\circ \leq \theta$

Usage: $hav(290^\circ 50') = hav(69^\circ 10') = 0.32217$ denoted as ,32217

$\theta \leq 180^\circ$	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°	
0'	,32899	,33722	,34549	,35381	,36218	,37059	,37904	,38752	,39604	,40460	60'
2'	,32926	,33749	,34577	,35409	,36246	,37087	,37932	,38781	,39633	,40488	58'
4'	,32954	,33777	,34604	,35437	,36274	,37115	,37960	,38809	,39661	,40517	56'
6'	,32981	,33804	,34632	,35465	,36302	,37143	,37989	,38837	,39690	,40545	54'
8'	,33008	,33832	,34660	,35493	,36330	,37171	,38017	,38866	,39718	,40574	52'
10'	,33036	,33859	,34688	,35521	,36358	,37200	,38045	,38894	,39747	,40602	50'
12'	,33063	,33887	,34715	,35548	,36386	,37228	,38073	,38923	,39775	,40631	48'
14'	,33090	,33914	,34743	,35576	,36414	,37256	,38102	,38951	,39804	,40660	46'
16'	,33118	,33942	,34771	,35604	,36442	,37284	,38130	,38979	,39832	,40688	44'
18'	,33145	,33969	,34798	,35632	,36470	,37312	,38158	,39008	,39861	,40717	42'
20'	,33173	,33997	,34826	,35660	,36498	,37340	,38186	,39036	,39889	,40745	40'
22'	,33200	,34024	,34854	,35688	,36526	,37368	,38215	,39064	,39918	,40774	38'
24'	,33227	,34052	,34882	,35716	,36554	,37397	,38243	,39093	,39946	,40802	36'
26'	,33255	,34080	,34909	,35743	,36582	,37425	,38271	,39121	,39975	,40831	34'
28'	,33282	,34107	,34937	,35771	,36610	,37453	,38299	,39150	,40003	,40860	32'
30'	,33310	,34135	,34965	,35799	,36638	,37481	,38328	,39178	,40032	,40888	30'
32'	,33337	,34162	,34992	,35827	,36666	,37509	,38356	,39206	,40060	,40917	28'
34'	,33365	,34190	,35020	,35855	,36694	,37537	,38384	,39235	,40089	,40945	26'
36'	,33392	,34218	,35048	,35883	,36722	,37566	,38413	,39263	,40117	,40974	24'
38'	,33419	,34245	,35076	,35911	,36750	,37594	,38441	,39292	,40146	,41003	22'
40'	,33447	,34273	,35103	,35939	,36778	,37622	,38469	,39320	,40174	,41031	20'
42'	,33474	,34300	,35131	,35967	,36806	,37650	,38498	,39348	,40203	,41060	18'
44'	,33502	,34328	,35159	,35995	,36834	,37678	,38526	,39377	,40231	,41089	16'
46'	,33529	,34356	,35187	,36023	,36862	,37706	,38554	,39405	,40260	,41117	14'
48'	,33557	,34383	,35215	,36050	,36891	,37735	,38582	,39434	,40288	,41146	12'
50'	,33584	,34411	,35242	,36078	,36919	,37763	,38611	,39462	,40317	,41174	10'
52'	,33612	,34439	,35270	,36106	,36947	,37791	,38639	,39491	,40345	,41203	8'
54'	,33639	,34466	,35298	,36134	,36975	,37819	,38667	,39519	,40374	,41232	6'
56'	,33667	,34494	,35326	,36162	,37003	,37847	,38696	,39548	,40402	,41260	4'
58'	,33694	,34521	,35354	,36190	,37031	,37876	,38724	,39576	,40431	,41289	2'
60'	,33722	,34549	,35381	,36218	,37059	,37904	,38752	,39604	,40460	,41318	0'
	289°	288°	287°	286°	285°	284°	283°	282°	281°	280°	$180^\circ \leq \theta$

Usage: $\text{hav}(289^\circ 10') = \text{hav}(70^\circ 50') = 0.33584$ denoted as ,33584

$\theta \leq 180^\circ$	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	
$0'$,41318	,42178	,43041	,43907	,44774	,45642	,46512	,47383	,48255	,49127	$60'$
$2'$,41346	,42207	,43070	,43935	,44803	,45671	,46541	,47412	,48284	,49156	$58'$
$4'$,41375	,42236	,43099	,43964	,44831	,45700	,46570	,47441	,48313	,49186	$56'$
$6'$,41404	,42264	,43128	,43993	,44860	,45729	,46599	,47470	,48342	,49215	$54'$
$8'$,41432	,42293	,43157	,44022	,44889	,45758	,46628	,47499	,48371	,49244	$52'$
$10'$,41461	,42322	,43185	,44051	,44918	,45787	,46657	,47528	,48400	,49273	$50'$
$12'$,41490	,42351	,43214	,44080	,44947	,45816	,46686	,47558	,48429	,49302	$48'$
$14'$,41518	,42379	,43243	,44109	,44976	,45845	,46715	,47587	,48459	,49331	$46'$
$16'$,41547	,42408	,43272	,44138	,45005	,45874	,46744	,47616	,48488	,49360	$44'$
$18'$,41576	,42437	,43301	,44166	,45034	,45903	,46773	,47645	,48517	,49389	$42'$
$20'$,41604	,42466	,43330	,44195	,45063	,45932	,46802	,47674	,48546	,49418	$40'$
$22'$,41633	,42494	,43358	,44224	,45092	,45961	,46831	,47703	,48575	,49447	$38'$
$24'$,41662	,42523	,43387	,44253	,45121	,45990	,46860	,47732	,48604	,49476	$36'$
$26'$,41690	,42552	,43416	,44282	,45150	,46019	,46890	,47761	,48633	,49505	$34'$
$28'$,41719	,42581	,43445	,44311	,45179	,46048	,46919	,47790	,48662	,49535	$32'$
$30'$,41748	,42610	,43474	,44340	,45208	,46077	,46948	,47819	,48691	,49564	$30'$
$32'$,41776	,42638	,43503	,44369	,45237	,46106	,46977	,47848	,48720	,49593	$28'$
$34'$,41805	,42667	,43531	,44398	,45266	,46135	,47006	,47877	,48749	,49622	$26'$
$36'$,41834	,42696	,43560	,44427	,45295	,46164	,47035	,47906	,48778	,49651	$24'$
$38'$,41862	,42725	,43589	,44455	,45324	,46193	,47064	,47935	,48807	,49680	$22'$
$40'$,41891	,42753	,43618	,44484	,45353	,46222	,47093	,47964	,48837	,49709	$20'$
$42'$,41920	,42782	,43647	,44513	,45381	,46251	,47122	,47993	,48866	,49738	$18'$
$44'$,41949	,42811	,43676	,44542	,45410	,46280	,47151	,48022	,48895	,49767	$16'$
$46'$,41977	,42840	,43704	,44571	,45439	,46309	,47180	,48052	,48924	,49796	$14'$
$48'$,42006	,42869	,43733	,44600	,45468	,46338	,47209	,48081	,48953	,49825	$12'$
$50'$,42035	,42897	,43762	,44629	,45497	,46367	,47238	,48110	,48982	,49855	$10'$
$52'$,42063	,42926	,43791	,44658	,45526	,46396	,47267	,48139	,49011	,49884	$8'$
$54'$,42092	,42955	,43820	,44687	,45555	,46425	,47296	,48168	,49040	,49913	$6'$
$56'$,42121	,42984	,43849	,44716	,45584	,46454	,47325	,48197	,49069	,49942	$4'$
$58'$,42150	,43013	,43878	,44745	,45613	,46483	,47354	,48226	,49098	,49971	$2'$
$60'$,42178	,43041	,43907	,44774	,45642	,46512	,47383	,48255	,49127	,50000	$0'$
	279°	278°	277°	276°	275°	274°	273°	272°	271°	270°	$180^\circ \leq \theta$

Usage: $\text{hav}(273^\circ 44') = \text{hav}(86^\circ 16') = 0.46744$ denoted as ,46744

$\theta \leq 180^\circ$	90°	91°	92°	93°	94°	95°	96°	97°	98°	99°	
0'	,50000	,50873	,51745	,52617	,53488	,54358	,55226	,56093	,56959	,57822	60'
2'	,50029	,50902	,51774	,52646	,53517	,54387	,55255	,56122	,56987	,57850	58'
4'	,50058	,50931	,51803	,52675	,53546	,54416	,55284	,56151	,57016	,57879	56'
6'	,50087	,50960	,51832	,52704	,53575	,54445	,55313	,56180	,57045	,57908	54'
8'	,50116	,50989	,51861	,52733	,53604	,54474	,55342	,56209	,57074	,57937	52'
10'	,50145	,51018	,51890	,52762	,53633	,54503	,55371	,56238	,57103	,57965	50'
12'	,50175	,51047	,51919	,52791	,53662	,54532	,55400	,56267	,57131	,57994	48'
14'	,50204	,51076	,51948	,52820	,53691	,54561	,55429	,56296	,57160	,58023	46'
16'	,50233	,51105	,51978	,52849	,53720	,54590	,55458	,56324	,57189	,58051	44'
18'	,50262	,51134	,52007	,52878	,53749	,54619	,55487	,56353	,57218	,58080	42'
20'	,50291	,51163	,52036	,52907	,53778	,54647	,55516	,56382	,57247	,58109	40'
22'	,50320	,51193	,52065	,52936	,53807	,54676	,55545	,56411	,57275	,58138	38'
24'	,50349	,51222	,52094	,52965	,53836	,54705	,55573	,56440	,57304	,58166	36'
26'	,50378	,51251	,52123	,52994	,53865	,54734	,55602	,56469	,57333	,58195	34'
28'	,50407	,51280	,52152	,53023	,53894	,54763	,55631	,56497	,57362	,58224	32'
30'	,50436	,51309	,52181	,53052	,53923	,54792	,55660	,56526	,57390	,58252	30'
32'	,50465	,51338	,52210	,53081	,53952	,54821	,55689	,56555	,57419	,58281	28'
34'	,50495	,51367	,52239	,53110	,53981	,54850	,55718	,56584	,57448	,58310	26'
36'	,50524	,51396	,52268	,53140	,54010	,54879	,55747	,56613	,57477	,58338	24'
38'	,50553	,51425	,52297	,53169	,54039	,54908	,55776	,56642	,57506	,58367	22'
40'	,50582	,51454	,52326	,53198	,54068	,54937	,55805	,56670	,57534	,58396	20'
42'	,50611	,51483	,52355	,53227	,54097	,54966	,55834	,56699	,57563	,58424	18'
44'	,50640	,51512	,52384	,53256	,54126	,54995	,55862	,56728	,57592	,58453	16'
46'	,50669	,51541	,52413	,53285	,54155	,55024	,55891	,56757	,57621	,58482	14'
48'	,50698	,51571	,52442	,53314	,54184	,55053	,55920	,56786	,57649	,58510	12'
50'	,50727	,51600	,52472	,53343	,54213	,55082	,55949	,56815	,57678	,58539	10'
52'	,50756	,51629	,52501	,53372	,54242	,55111	,55978	,56843	,57707	,58568	8'
54'	,50785	,51658	,52530	,53401	,54271	,55140	,56007	,56872	,57736	,58596	6'
56'	,50814	,51687	,52559	,53430	,54300	,55169	,56036	,56901	,57764	,58625	4'
58'	,50844	,51716	,52588	,53459	,54329	,55197	,56065	,56930	,57793	,58654	2'
60'	,50873	,51745	,52617	,53488	,54358	,55226	,56093	,56959	,57822	,58682	0'
	269°	268°	267°	266°	265°	264°	263°	262°	261°	260°	$180^\circ \leq \theta$

Usage: $hav(263^\circ 02') = hav(96^\circ 58') = 0.56065$ denoted as ,56065

$\theta \leq 180^\circ$	100°	101°	102°	103°	104°	105°	106°	107°	108°	109°	
0'	,58682	,59540	,60396	,61248	,62096	,62941	,63782	,64619	,65451	,66278	60'
2'	,58711	,59569	,60424	,61276	,62124	,62969	,63810	,64646	,65479	,66306	58'
4'	,58740	,59598	,60452	,61304	,62153	,62997	,63838	,64674	,65506	,66333	56'
6'	,58768	,59626	,60481	,61333	,62181	,63025	,63866	,64702	,65534	,66361	54'
8'	,58797	,59655	,60509	,61361	,62209	,63053	,63894	,64730	,65561	,66388	52'
10'	,58826	,59683	,60538	,61389	,62237	,63081	,63922	,64758	,65589	,66416	50'
12'	,58854	,59712	,60566	,61418	,62265	,63109	,63950	,64785	,65617	,66443	48'
14'	,58883	,59740	,60595	,61446	,62294	,63138	,63977	,64813	,65644	,66471	46'
16'	,58911	,59769	,60623	,61474	,62322	,63166	,64005	,64841	,65672	,66498	44'
18'	,58940	,59797	,60652	,61502	,62350	,63194	,64033	,64869	,65700	,66526	42'
20'	,58969	,59826	,60680	,61531	,62378	,63222	,64061	,64897	,65727	,66553	40'
22'	,58997	,59854	,60708	,61559	,62406	,63250	,64089	,64924	,65755	,66581	38'
24'	,59026	,59883	,60737	,61587	,62434	,63278	,64117	,64952	,65782	,66608	36'
26'	,59055	,59911	,60765	,61616	,62463	,63306	,64145	,64980	,65810	,66635	34'
28'	,59083	,59940	,60794	,61644	,62491	,63334	,64173	,65008	,65838	,66663	32'
30'	,59112	,59968	,60822	,61672	,62519	,63362	,64201	,65035	,65865	,66690	30'
32'	,59140	,59997	,60850	,61701	,62547	,63390	,64229	,65063	,65893	,66718	28'
34'	,59169	,60025	,60879	,61729	,62575	,63418	,64257	,65091	,65920	,66745	26'
36'	,59198	,60054	,60907	,61757	,62603	,63446	,64284	,65118	,65948	,66773	24'
38'	,59226	,60082	,60936	,61785	,62632	,63474	,64312	,65146	,65976	,66800	22'
40'	,59255	,60111	,60964	,61814	,62660	,63502	,64340	,65174	,66003	,66827	20'
42'	,59283	,60139	,60992	,61842	,62688	,63530	,64368	,65202	,66031	,66855	18'
44'	,59312	,60168	,61021	,61870	,62716	,63558	,64396	,65229	,66058	,66882	16'
46'	,59340	,60196	,61049	,61898	,62744	,63586	,64424	,65257	,66086	,66910	14'
48'	,59369	,60225	,61077	,61927	,62772	,63614	,64452	,65285	,66113	,66937	12'
50'	,59398	,60253	,61106	,61955	,62800	,63642	,64479	,65312	,66141	,66964	10'
52'	,59426	,60282	,61134	,61983	,62829	,63670	,64507	,65340	,66168	,66992	8'
54'	,59455	,60310	,61163	,62011	,62857	,63698	,64535	,65368	,66196	,67019	6'
56'	,59483	,60339	,61191	,62040	,62885	,63726	,64563	,65396	,66223	,67046	4'
58'	,59512	,60367	,61219	,62068	,62913	,63754	,64591	,65423	,66251	,67074	2'
60'	,59540	,60396	,61248	,62096	,62941	,63782	,64619	,65451	,66278	,67101	0'
	259°	258°	257°	256°	255°	254°	253°	252°	251°	250°	$180^\circ \leq \theta$

Usage: $\text{hav}(255^\circ 40') = \text{hav}(104^\circ 20') = 0.62378$ denoted as ,62378

$\theta \leq 180^\circ$	110°	111°	112°	113°	114°	115°	116°	117°	118°	119°	
0'	,67101	,67918	,68730	,69537	,70337	,71131	,71919	,72700	,73474	,74240	60'
2'	,67128	,67946	,68757	,69563	,70363	,71157	,71945	,72725	,73499	,74266	58'
4'	,67156	,67973	,68784	,69590	,70390	,71184	,71971	,72751	,73525	,74291	56'
6'	,67183	,68000	,68811	,69617	,70417	,71210	,71997	,72777	,73551	,74317	54'
8'	,67210	,68027	,68838	,69644	,70443	,71236	,72023	,72803	,73576	,74342	52'
10'	,67238	,68054	,68865	,69670	,70470	,71263	,72049	,72829	,73602	,74368	50'
12'	,67265	,68081	,68892	,69697	,70496	,71289	,72075	,72855	,73628	,74393	48'
14'	,67292	,68108	,68919	,69724	,70523	,71315	,72101	,72881	,73653	,74418	46'
16'	,67319	,68135	,68946	,69751	,70549	,71342	,72127	,72907	,73679	,74444	44'
18'	,67347	,68163	,68973	,69777	,70576	,71368	,72154	,72932	,73704	,74469	42'
20'	,67374	,68190	,69000	,69804	,70602	,71394	,72180	,72958	,73730	,74494	40'
22'	,67401	,68217	,69027	,69831	,70629	,71420	,72206	,72984	,73756	,74520	38'
24'	,67429	,68244	,69054	,69857	,70655	,71447	,72232	,73010	,73781	,74545	36'
26'	,67456	,68271	,69080	,69884	,70682	,71473	,72258	,73036	,73807	,74571	34'
28'	,67483	,68298	,69107	,69911	,70708	,71499	,72284	,73062	,73832	,74596	32'
30'	,67510	,68325	,69134	,69937	,70735	,71526	,72310	,73087	,73858	,74621	30'
32'	,67538	,68352	,69161	,69964	,70761	,71552	,72336	,73113	,73883	,74646	28'
34'	,67565	,68379	,69188	,69991	,70788	,71578	,72362	,73139	,73909	,74672	26'
36'	,67592	,68406	,69215	,70017	,70814	,71604	,72388	,73165	,73935	,74697	24'
38'	,67619	,68433	,69242	,70044	,70840	,71631	,72414	,73191	,73960	,74722	22'
40'	,67647	,68460	,69268	,70071	,70867	,71657	,72440	,73216	,73986	,74748	20'
42'	,67674	,68487	,69295	,70097	,70893	,71683	,72466	,73242	,74011	,74773	18'
44'	,67701	,68514	,69322	,70124	,70920	,71709	,72492	,73268	,74037	,74798	16'
46'	,67728	,68541	,69349	,70151	,70946	,71735	,72518	,73294	,74062	,74823	14'
48'	,67755	,68568	,69376	,70177	,70973	,71762	,72544	,73319	,74088	,74849	12'
50'	,67783	,68595	,69403	,70204	,70999	,71788	,72570	,73345	,74113	,74874	10'
52'	,67810	,68622	,69429	,70230	,71025	,71814	,72596	,73371	,74139	,74899	8'
54'	,67837	,68649	,69456	,70257	,71052	,71840	,72622	,73396	,74164	,74924	6'
56'	,67864	,68676	,69483	,70284	,71078	,71866	,72648	,73422	,74190	,74950	4'
58'	,67891	,68703	,69510	,70310	,71105	,71892	,72674	,73448	,74215	,74975	2'
60'	,67918	,68730	,69537	,70337	,71131	,71919	,72700	,73474	,74240	,75000	0'
	249°	248°	247°	246°	245°	244°	243°	242°	241°	240°	$180^\circ \leq \theta$

Usage: $\text{hav}(244^\circ 20') = \text{hav}(115^\circ 40') = 0.71657$ denoted as ,71657

$\theta \leq 180^\circ$	120°	121°	122°	123°	124°	125°	126°	127°	128°	129°	
0'	,75000	,75752	,76496	,77232	,77960	,78679	,79389	,80091	,80783	,81466	60'
2'	,75025	,75777	,76521	,77256	,77984	,78703	,79413	,80114	,80806	,81489	58'
4'	,75050	,75802	,76545	,77281	,78008	,78726	,79436	,80137	,80829	,81511	56'
6'	,75076	,75827	,76570	,77305	,78032	,78750	,79460	,80160	,80852	,81534	54'
8'	,75101	,75852	,76595	,77329	,78056	,78774	,79483	,80184	,80875	,81556	52'
10'	,75126	,75876	,76619	,77354	,78080	,78798	,79507	,80207	,80898	,81579	50'
12'	,75151	,75901	,76644	,77378	,78104	,78822	,79530	,80230	,80920	,81601	48'
14'	,75176	,75926	,76668	,77402	,78128	,78845	,79554	,80253	,80943	,81624	46'
16'	,75201	,75951	,76693	,77427	,78152	,78869	,79577	,80276	,80966	,81647	44'
18'	,75226	,75976	,76718	,77451	,78176	,78893	,79601	,80299	,80989	,81669	42'
20'	,75251	,76001	,76742	,77475	,78200	,78917	,79624	,80323	,81012	,81692	40'
22'	,75277	,76026	,76767	,77500	,78224	,78940	,79648	,80346	,81035	,81714	38'
24'	,75302	,76050	,76791	,77524	,78248	,78964	,79671	,80369	,81057	,81737	36'
26'	,75327	,76075	,76816	,77548	,78272	,78988	,79694	,80392	,81080	,81759	34'
28'	,75352	,76100	,76840	,77573	,78296	,79011	,79718	,80415	,81103	,81781	32'
30'	,75377	,76125	,76865	,77597	,78320	,79035	,79741	,80438	,81126	,81804	30'
32'	,75402	,76150	,76890	,77621	,78344	,79059	,79765	,80461	,81148	,81826	28'
34'	,75427	,76175	,76914	,77645	,78368	,79082	,79788	,80484	,81171	,81849	26'
36'	,75452	,76199	,76939	,77670	,78392	,79106	,79811	,80507	,81194	,81871	24'
38'	,75477	,76224	,76963	,77694	,78416	,79130	,79835	,80530	,81217	,81894	22'
40'	,75502	,76249	,76988	,77718	,78440	,79153	,79858	,80553	,81239	,81916	20'
42'	,75527	,76274	,77012	,77742	,78464	,79177	,79881	,80576	,81262	,81938	18'
44'	,75552	,76298	,77036	,77766	,78488	,79201	,79905	,80599	,81285	,81961	16'
46'	,75577	,76323	,77061	,77791	,78512	,79224	,79928	,80622	,81308	,81983	14'
48'	,75602	,76348	,77085	,77815	,78536	,79248	,79951	,80645	,81330	,82005	12'
50'	,75627	,76373	,77110	,77839	,78560	,79271	,79974	,80668	,81353	,82028	10'
52'	,75652	,76397	,77134	,77863	,78583	,79295	,79998	,80691	,81376	,82050	8'
54'	,75677	,76422	,77159	,77887	,78607	,79319	,80021	,80714	,81398	,82072	6'
56'	,75702	,76447	,77183	,77911	,78631	,79342	,80044	,80737	,81421	,82095	4'
58'	,75727	,76471	,77208	,77936	,78655	,79366	,80068	,80760	,81443	,82117	2'
60'	,75752	,76496	,77232	,77960	,78679	,79389	,80091	,80783	,81466	,82139	0'
	239°	238°	237°	236°	235°	234°	233°	232°	231°	230°	$180^\circ \leq \theta$

Usage: $\text{hav}(237^\circ 52') = \text{hav}(122^\circ 08') = 0.76595$ denoted as ,76595

$\theta \leq 180^\circ$	130°	131°	132°	133°	134°	135°	136°	137°	138°	139°	
0'	,82139	,82803	,83457	,84100	,84733	,85355	,85967	,86568	,87157	,87735	60'
2'	,82162	,82825	,83478	,84121	,84754	,85376	,85987	,86588	,87177	,87755	58'
4'	,82184	,82847	,83500	,84142	,84775	,85396	,86007	,86607	,87196	,87774	56'
6'	,82206	,82869	,83521	,84164	,84796	,85417	,86028	,86627	,87216	,87793	54'
8'	,82228	,82891	,83543	,84185	,84817	,85438	,86048	,86647	,87235	,87812	52'
10'	,82251	,82913	,83564	,84206	,84837	,85458	,86068	,86667	,87254	,87831	50'
12'	,82273	,82934	,83586	,84227	,84858	,85479	,86088	,86686	,87274	,87850	48'
14'	,82295	,82956	,83608	,84249	,84879	,85499	,86108	,86706	,87293	,87869	46'
16'	,82317	,82978	,83629	,84270	,84900	,85520	,86128	,86726	,87313	,87888	44'
18'	,82339	,83000	,83651	,84291	,84921	,85540	,86148	,86746	,87332	,87907	42'
20'	,82362	,83022	,83672	,84312	,84942	,85560	,86168	,86765	,87351	,87926	40'
22'	,82384	,83044	,83694	,84333	,84962	,85581	,86189	,86785	,87371	,87945	38'
24'	,82406	,83066	,83715	,84354	,84983	,85601	,86209	,86805	,87390	,87964	36'
26'	,82428	,83087	,83737	,84376	,85004	,85622	,86229	,86825	,87409	,87982	34'
28'	,82450	,83109	,83758	,84397	,85025	,85642	,86249	,86844	,87429	,88001	32'
30'	,82472	,83131	,83780	,84418	,85045	,85663	,86269	,86864	,87448	,88020	30'
32'	,82495	,83153	,83801	,84439	,85066	,85683	,86289	,86884	,87467	,88039	28'
34'	,82517	,83175	,83822	,84460	,85087	,85703	,86309	,86903	,87486	,88058	26'
36'	,82539	,83196	,83844	,84481	,85108	,85724	,86329	,86923	,87506	,88077	24'
38'	,82561	,83218	,83865	,84502	,85128	,85744	,86349	,86942	,87525	,88096	22'
40'	,82583	,83240	,83887	,84523	,85149	,85764	,86369	,86962	,87544	,88115	20'
42'	,82605	,83262	,83908	,84544	,85170	,85785	,86389	,86982	,87563	,88133	18'
44'	,82627	,83283	,83929	,84565	,85190	,85805	,86409	,87001	,87582	,88152	16'
46'	,82649	,83305	,83951	,84586	,85211	,85825	,86429	,87021	,87602	,88171	14'
48'	,82671	,83327	,83972	,84607	,85232	,85846	,86448	,87040	,87621	,88190	12'
50'	,82693	,83348	,83993	,84628	,85252	,85866	,86468	,87060	,87640	,88209	10'
52'	,82715	,83370	,84015	,84649	,85273	,85886	,86488	,87079	,87659	,88227	8'
54'	,82737	,83392	,84036	,84670	,85294	,85906	,86508	,87099	,87678	,88246	6'
56'	,82759	,83413	,84057	,84691	,85314	,85927	,86528	,87118	,87697	,88265	4'
58'	,82781	,83435	,84079	,84712	,85335	,85947	,86548	,87138	,87716	,88284	2'
60'	,82803	,83457	,84100	,84733	,85355	,85967	,86568	,87157	,87735	,88302	0'
	229°	228°	227°	226°	225°	224°	223°	222°	221°	220°	$180^\circ \leq \theta$

Usage: $hav(223^\circ 18') = hav(136^\circ 42') = 0.86389$ denoted as ,86389

$\theta \leq 180^\circ$	140°	141°	142°	143°	144°	145°	146°	147°	148°	149°	
0'	,88302	,88857	,89401	,89932	$\bar{1},0451$	$\bar{1},0958$	$\bar{1},1452$	$\bar{1},1934$	$\bar{1},2402$	$\bar{1},2858$	60'
2'	,88321	,88876	,89418	,89949	$\bar{1},0468$	$\bar{1},0974$	$\bar{1},1468$	$\bar{1},1949$	$\bar{1},2418$	$\bar{1},2873$	58'
4'	,88340	,88894	,89436	,89967	$\bar{1},0485$	$\bar{1},0991$	$\bar{1},1484$	$\bar{1},1965$	$\bar{1},2433$	$\bar{1},2888$	56'
6'	,88358	,88912	,89454	,89984	$\bar{1},0502$	$\bar{1},1008$	$\bar{1},1501$	$\bar{1},1981$	$\bar{1},2449$	$\bar{1},2903$	54'
8'	,88377	,88930	,89472	$\bar{1},0002$	$\bar{1},0519$	$\bar{1},1024$	$\bar{1},1517$	$\bar{1},1997$	$\bar{1},2464$	$\bar{1},2918$	52'
10'	,88396	,88949	,89490	$\bar{1},0019$	$\bar{1},0536$	$\bar{1},1041$	$\bar{1},1533$	$\bar{1},2013$	$\bar{1},2479$	$\bar{1},2933$	50'
12'	,88414	,88967	,89508	$\bar{1},0037$	$\bar{1},0553$	$\bar{1},1057$	$\bar{1},1549$	$\bar{1},2028$	$\bar{1},2495$	$\bar{1},2948$	48'
14'	,88433	,88985	,89526	$\bar{1},0054$	$\bar{1},0570$	$\bar{1},1074$	$\bar{1},1565$	$\bar{1},2044$	$\bar{1},2510$	$\bar{1},2963$	46'
16'	,88451	,89003	,89543	$\bar{1},0071$	$\bar{1},0587$	$\bar{1},1091$	$\bar{1},1582$	$\bar{1},2060$	$\bar{1},2525$	$\bar{1},2978$	44'
18'	,88470	,89022	,89561	$\bar{1},0089$	$\bar{1},0604$	$\bar{1},1107$	$\bar{1},1598$	$\bar{1},2076$	$\bar{1},2541$	$\bar{1},2993$	42'
20'	,88489	,89040	,89579	$\bar{1},0106$	$\bar{1},0621$	$\bar{1},1124$	$\bar{1},1614$	$\bar{1},2091$	$\bar{1},2556$	$\bar{1},3007$	40'
22'	,88507	,89058	,89597	$\bar{1},0124$	$\bar{1},0638$	$\bar{1},1140$	$\bar{1},1630$	$\bar{1},2107$	$\bar{1},2571$	$\bar{1},3022$	38'
24'	,88526	,89076	,89614	$\bar{1},0141$	$\bar{1},0655$	$\bar{1},1157$	$\bar{1},1646$	$\bar{1},2123$	$\bar{1},2586$	$\bar{1},3037$	36'
26'	,88544	,89094	,89632	$\bar{1},0158$	$\bar{1},0672$	$\bar{1},1173$	$\bar{1},1662$	$\bar{1},2138$	$\bar{1},2602$	$\bar{1},3052$	34'
28'	,88563	,89112	,89650	$\bar{1},0176$	$\bar{1},0689$	$\bar{1},1190$	$\bar{1},1678$	$\bar{1},2154$	$\bar{1},2617$	$\bar{1},3067$	32'
30'	,88581	,89130	,89668	$\bar{1},0193$	$\bar{1},0706$	$\bar{1},1206$	$\bar{1},1694$	$\bar{1},2170$	$\bar{1},2632$	$\bar{1},3081$	30'
32'	,88600	,89149	,89685	$\bar{1},0210$	$\bar{1},0723$	$\bar{1},1223$	$\bar{1},1710$	$\bar{1},2185$	$\bar{1},2647$	$\bar{1},3096$	28'
34'	,88618	,89167	,89703	$\bar{1},0227$	$\bar{1},0740$	$\bar{1},1239$	$\bar{1},1726$	$\bar{1},2201$	$\bar{1},2662$	$\bar{1},3111$	26'
36'	,88637	,89185	,89721	$\bar{1},0245$	$\bar{1},0756$	$\bar{1},1256$	$\bar{1},1742$	$\bar{1},2216$	$\bar{1},2678$	$\bar{1},3126$	24'
38'	,88655	,89203	,89738	$\bar{1},0262$	$\bar{1},0773$	$\bar{1},1272$	$\bar{1},1758$	$\bar{1},2232$	$\bar{1},2693$	$\bar{1},3140$	22'
40'	,88674	,89221	,89756	$\bar{1},0279$	$\bar{1},0790$	$\bar{1},1289$	$\bar{1},1774$	$\bar{1},2248$	$\bar{1},2708$	$\bar{1},3155$	20'
42'	,88692	,89239	,89774	$\bar{1},0296$	$\bar{1},0807$	$\bar{1},1305$	$\bar{1},1790$	$\bar{1},2263$	$\bar{1},2723$	$\bar{1},3170$	18'
44'	,88710	,89257	,89791	$\bar{1},0314$	$\bar{1},0824$	$\bar{1},1321$	$\bar{1},1806$	$\bar{1},2279$	$\bar{1},2738$	$\bar{1},3184$	16'
46'	,88729	,89275	,89809	$\bar{1},0331$	$\bar{1},0840$	$\bar{1},1338$	$\bar{1},1822$	$\bar{1},2294$	$\bar{1},2753$	$\bar{1},3199$	14'
48'	,88747	,89293	,89826	$\bar{1},0348$	$\bar{1},0857$	$\bar{1},1354$	$\bar{1},1838$	$\bar{1},2310$	$\bar{1},2768$	$\bar{1},3214$	12'
50'	,88766	,89311	,89844	$\bar{1},0365$	$\bar{1},0874$	$\bar{1},1370$	$\bar{1},1854$	$\bar{1},2325$	$\bar{1},2783$	$\bar{1},3228$	10'
52'	,88784	,89329	,89862	$\bar{1},0382$	$\bar{1},0891$	$\bar{1},1387$	$\bar{1},1870$	$\bar{1},2341$	$\bar{1},2798$	$\bar{1},3243$	8'
54'	,88802	,89347	,89879	$\bar{1},0399$	$\bar{1},0907$	$\bar{1},1403$	$\bar{1},1886$	$\bar{1},2356$	$\bar{1},2813$	$\bar{1},3258$	6'
56'	,88821	,89365	,89897	$\bar{1},0417$	$\bar{1},0924$	$\bar{1},1419$	$\bar{1},1902$	$\bar{1},2372$	$\bar{1},2828$	$\bar{1},3272$	4'
58'	,88839	,89383	,89914	$\bar{1},0434$	$\bar{1},0941$	$\bar{1},1436$	$\bar{1},1918$	$\bar{1},2387$	$\bar{1},2843$	$\bar{1},3287$	2'
60'	,88857	,89401	,89932	$\bar{1},0451$	$\bar{1},0958$	$\bar{1},1452$	$\bar{1},1934$	$\bar{1},2402$	$\bar{1},2858$	$\bar{1},3301$	0'
	219°	218°	217°	216°	215°	214°	213°	212°	211°	210°	$180^\circ \leq \theta$

Usage: $\text{hav}(216^\circ 52') = \text{hav}(143^\circ 08') = 0.90002$ denoted as $\bar{1},0002$

$\text{hav}(216^\circ 54') = \text{hav}(143^\circ 06') = 0.89984$ denoted as ,89984

$\theta \leq 180^\circ$	150°	151°	152°	153°	154°	155°	156°	157°	158°	159°	
0'	1,3301	1,3731	1,4147	1,4550	1,4940	1,5315	1,5677	1,6025	1,6359	1,6679	60'
2'	1,3316	1,3745	1,4161	1,4564	1,4952	1,5328	1,5689	1,6037	1,6370	1,6689	58'
4'	1,3330	1,3759	1,4175	1,4577	1,4965	1,5340	1,5701	1,6048	1,6381	1,6700	56'
6'	1,3345	1,3773	1,4188	1,4590	1,4978	1,5352	1,5713	1,6059	1,6392	1,6710	54'
8'	1,3359	1,3787	1,4202	1,4603	1,4991	1,5364	1,5724	1,6071	1,6403	1,6721	52'
10'	1,3374	1,3801	1,4215	1,4616	1,5003	1,5377	1,5736	1,6082	1,6413	1,6731	50'
12'	1,3388	1,3815	1,4229	1,4629	1,5016	1,5389	1,5748	1,6093	1,6424	1,6741	48'
14'	1,3403	1,3829	1,4243	1,4642	1,5029	1,5401	1,5760	1,6104	1,6435	1,6752	46'
16'	1,3417	1,3843	1,4256	1,4655	1,5041	1,5413	1,5771	1,6116	1,6446	1,6762	44'
18'	1,3432	1,3857	1,4270	1,4669	1,5054	1,5425	1,5783	1,6127	1,6457	1,6772	42'
20'	1,3446	1,3871	1,4283	1,4682	1,5066	1,5438	1,5795	1,6138	1,6467	1,6782	40'
22'	1,3460	1,3885	1,4297	1,4695	1,5079	1,5450	1,5806	1,6149	1,6478	1,6793	38'
24'	1,3475	1,3899	1,4310	1,4708	1,5092	1,5462	1,5818	1,6161	1,6489	1,6803	36'
26'	1,3489	1,3913	1,4324	1,4721	1,5104	1,5474	1,5830	1,6172	1,6500	1,6813	34'
28'	1,3503	1,3927	1,4337	1,4734	1,5117	1,5486	1,5841	1,6183	1,6510	1,6823	32'
30'	1,3518	1,3941	1,4351	1,4747	1,5129	1,5498	1,5853	1,6194	1,6521	1,6834	30'
32'	1,3532	1,3955	1,4364	1,4760	1,5142	1,5510	1,5865	1,6205	1,6532	1,6844	28'
34'	1,3546	1,3969	1,4377	1,4773	1,5154	1,5522	1,5876	1,6216	1,6542	1,6854	26'
36'	1,3561	1,3982	1,4391	1,4786	1,5167	1,5534	1,5888	1,6227	1,6553	1,6864	24'
38'	1,3575	1,3996	1,4404	1,4799	1,5179	1,5546	1,5899	1,6238	1,6563	1,6874	22'
40'	1,3589	1,4010	1,4418	1,4811	1,5192	1,5558	1,5911	1,6249	1,6574	1,6884	20'
42'	1,3603	1,4024	1,4431	1,4824	1,5204	1,5570	1,5922	1,6260	1,6585	1,6894	18'
44'	1,3618	1,4038	1,4444	1,4837	1,5217	1,5582	1,5934	1,6272	1,6595	1,6905	16'
46'	1,3632	1,4051	1,4458	1,4850	1,5229	1,5594	1,5945	1,6283	1,6606	1,6915	14'
48'	1,3646	1,4065	1,4471	1,4863	1,5241	1,5606	1,5957	1,6294	1,6616	1,6925	12'
50'	1,3660	1,4079	1,4484	1,4876	1,5254	1,5618	1,5968	1,6305	1,6627	1,6935	10'
52'	1,3674	1,4093	1,4497	1,4889	1,5266	1,5630	1,5980	1,6315	1,6637	1,6945	8'
54'	1,3689	1,4106	1,4511	1,4901	1,5278	1,5642	1,5991	1,6326	1,6648	1,6955	6'
56'	1,3703	1,4120	1,4524	1,4914	1,5291	1,5654	1,6002	1,6337	1,6658	1,6965	4'
58'	1,3717	1,4134	1,4537	1,4927	1,5303	1,5665	1,6014	1,6348	1,6669	1,6975	2'
60'	1,3731	1,4147	1,4550	1,4940	1,5315	1,5677	1,6025	1,6359	1,6679	1,6985	0'
	209°	208°	207°	206°	205°	204°	203°	202°	201°	200°	180° ≤ θ

Usage: $\text{hav}(200^\circ 02') = \text{hav}(159^\circ 58') = 0.96975$ denoted as $\bar{1},6975$

$\theta \leq 180^\circ$	160°	161°	162°	163°	164°	165°	166°	167°	168°	169°	
0'	1.6985	1.7276	1.7553	1.7815	1.8063	1.8296	1.8515	1.8719	1.8907	2.0814	60'
2'	1.6995	1.7285	1.7562	1.7824	1.8071	1.8304	1.8522	1.8725	1.8913	2.0869	58'
4'	1.7004	1.7295	1.7571	1.7832	1.8079	1.8311	1.8529	1.8732	1.8919	2.0924	56'
6'	1.7014	1.7304	1.7580	1.7841	1.8087	1.8319	1.8536	1.8738	1.8925	2.0979	54'
8'	1.7024	1.7314	1.7589	1.7849	1.8095	1.8326	1.8543	1.8745	1.8931	2.1034	52'
10'	1.7034	1.7323	1.7598	1.7858	1.8103	1.8334	1.8550	1.8751	1.8937	2.1089	50'
12'	1.7044	1.7332	1.7606	1.7866	1.8111	1.8341	1.8557	1.8757	1.8943	2.1144	48'
14'	1.7054	1.7342	1.7615	1.7874	1.8119	1.8349	1.8564	1.8764	1.8949	2.1198	46'
16'	1.7064	1.7351	1.7624	1.7883	1.8127	1.8356	1.8571	1.8770	1.8955	2.1252	44'
18'	1.7074	1.7361	1.7633	1.7891	1.8135	1.8363	1.8577	1.8777	1.8961	2.1306	42'
20'	1.7083	1.7370	1.7642	1.7899	1.8142	1.8371	1.8584	1.8783	1.8967	2.1360	40'
22'	1.7093	1.7379	1.7651	1.7908	1.8150	1.8378	1.8591	1.8789	1.8973	2.1414	38'
24'	1.7103	1.7388	1.7660	1.7916	1.8158	1.8385	1.8598	1.8796	1.8979	2.1468	36'
26'	1.7113	1.7398	1.7668	1.7924	1.8166	1.8393	1.8605	1.8802	1.8985	2.1521	34'
28'	1.7122	1.7407	1.7677	1.7933	1.8174	1.8400	1.8612	1.8808	1.8990	2.1574	32'
30'	1.7132	1.7416	1.7686	1.7941	1.8182	1.8407	1.8618	1.8815	1.8996	2.1627	30'
32'	1.7142	1.7425	1.7695	1.7949	1.8189	1.8415	1.8625	1.8821	2.0020	2.1680	28'
34'	1.7151	1.7435	1.7703	1.7957	1.8197	1.8422	1.8632	1.8827	2.0078	2.1733	26'
36'	1.7161	1.7444	1.7712	1.7966	1.8205	1.8429	1.8639	1.8834	2.0136	2.1786	24'
38'	1.7171	1.7453	1.7721	1.7974	1.8212	1.8436	1.8646	1.8840	2.0193	2.1838	22'
40'	1.7180	1.7462	1.7729	1.7982	1.8220	1.8444	1.8652	1.8846	2.0250	2.1890	20'
42'	1.7190	1.7471	1.7738	1.7990	1.8228	1.8451	1.8659	1.8852	2.0307	2.1943	18'
44'	1.7200	1.7480	1.7747	1.7998	1.8236	1.8458	1.8666	1.8858	2.0364	2.1994	16'
46'	1.7209	1.7490	1.7755	1.8007	1.8243	1.8465	1.8672	1.8865	2.0421	2.2046	14'
48'	1.7219	1.7499	1.7764	1.8015	1.8251	1.8472	1.8679	1.8871	2.0478	2.2098	12'
50'	1.7228	1.7508	1.7773	1.8023	1.8258	1.8479	1.8686	1.8877	2.0534	2.2149	10'
52'	1.7238	1.7517	1.7781	1.8031	1.8266	1.8487	1.8692	1.8883	2.0590	2.2200	8'
54'	1.7247	1.7526	1.7790	1.8039	1.8274	1.8494	1.8699	1.8889	2.0646	2.2252	6'
56'	1.7257	1.7535	1.7798	1.8047	1.8281	1.8501	1.8705	1.8895	2.0702	2.2303	4'
58'	1.7266	1.7544	1.7807	1.8055	1.8289	1.8508	1.8712	1.8901	2.0758	2.2353	2'
60'	1.7276	1.7553	1.7815	1.8063	1.8296	1.8515	1.8719	1.8907	2.0814	2.2404	0'
	199°	198°	197°	196°	195°	194°	193°	192°	191°	190°	$180^\circ \leq \theta$

Usage: $hav(191^\circ 26') = hav(168^\circ 34') = 0.990078$ denoted as $\bar{2}.0078$

$\theta \leq 180^\circ$	170°	171°	172°	173°	174°	175°	176°	177°	178°	179°	
0'	$\bar{2},2404$	$\bar{2},3844$	$\bar{2},5134$	$\bar{2},6273$	$\bar{2},7261$	$\bar{2},8097$	$\bar{2},8782$	$\bar{3},3148$	$\bar{3},6954$	$\bar{4},2385$	60'
2'	$\bar{2},2454$	$\bar{2},3890$	$\bar{2},5174$	$\bar{2},6308$	$\bar{2},7291$	$\bar{2},8123$	$\bar{2},8802$	$\bar{3},3299$	$\bar{3},7055$	$\bar{4},2884$	58'
4'	$\bar{2},2505$	$\bar{2},3935$	$\bar{2},5215$	$\bar{2},6344$	$\bar{2},7321$	$\bar{2},8148$	$\bar{2},8822$	$\bar{3},3449$	$\bar{3},7154$	$\bar{4},3366$	56'
6'	$\bar{2},2555$	$\bar{2},3980$	$\bar{2},5255$	$\bar{2},6379$	$\bar{2},7351$	$\bar{2},8173$	$\bar{2},8842$	$\bar{3},3597$	$\bar{3},7251$	$\bar{4},3832$	54'
8'	$\bar{2},2605$	$\bar{2},4025$	$\bar{2},5295$	$\bar{2},6414$	$\bar{2},7381$	$\bar{2},8197$	$\bar{2},8862$	$\bar{3},3743$	$\bar{3},7347$	$\bar{4},4280$	52'
10'	$\bar{2},2654$	$\bar{2},4070$	$\bar{2},5334$	$\bar{2},6448$	$\bar{2},7411$	$\bar{2},8222$	$\bar{2},8881$	$\bar{3},3888$	$\bar{3},7441$	$\bar{4},4712$	50'
12'	$\bar{2},2704$	$\bar{2},4114$	$\bar{2},5374$	$\bar{2},6483$	$\bar{2},7440$	$\bar{2},8246$	$\bar{2},8901$	$\bar{3},4031$	$\bar{3},7533$	$\bar{4},5126$	48'
14'	$\bar{2},2753$	$\bar{2},4159$	$\bar{2},5413$	$\bar{2},6517$	$\bar{2},7470$	$\bar{2},8271$	$\bar{2},8920$	$\bar{3},4172$	$\bar{3},7623$	$\bar{4},5524$	46'
16'	$\bar{2},2803$	$\bar{2},4203$	$\bar{2},5453$	$\bar{2},6551$	$\bar{2},7499$	$\bar{2},8295$	$\bar{2},8939$	$\bar{3},4312$	$\bar{3},7712$	$\bar{4},5905$	44'
18'	$\bar{2},2852$	$\bar{2},4247$	$\bar{2},5492$	$\bar{2},6585$	$\bar{2},7528$	$\bar{2},8319$	$\bar{2},8958$	$\bar{3},4449$	$\bar{3},7799$	$\bar{4},6268$	42'
20'	$\bar{2},2901$	$\bar{2},4291$	$\bar{2},5530$	$\bar{2},6619$	$\bar{2},7557$	$\bar{2},8342$	$\bar{2},8976$	$\bar{3},4586$	$\bar{3},7885$	$\bar{4},6615$	40'
22'	$\bar{2},2949$	$\bar{2},4335$	$\bar{2},5569$	$\bar{2},6653$	$\bar{2},7585$	$\bar{2},8366$	$\bar{2},8995$	$\bar{3},4720$	$\bar{3},7969$	$\bar{4},6945$	38'
24'	$\bar{2},2998$	$\bar{2},4378$	$\bar{2},5608$	$\bar{2},6686$	$\bar{2},7614$	$\bar{2},8389$	$\bar{3},0134$	$\bar{3},4853$	$\bar{3},8051$	$\bar{4},7258$	36'
26'	$\bar{2},3046$	$\bar{2},4422$	$\bar{2},5646$	$\bar{2},6720$	$\bar{2},7642$	$\bar{2},8413$	$\bar{3},0315$	$\bar{3},4984$	$\bar{3},8131$	$\bar{4},7555$	34'
28'	$\bar{2},3095$	$\bar{2},4465$	$\bar{2},5684$	$\bar{2},6753$	$\bar{2},7670$	$\bar{2},8436$	$\bar{3},0496$	$\bar{3},5113$	$\bar{3},8210$	$\bar{4},7834$	32'
30'	$\bar{2},3143$	$\bar{2},4508$	$\bar{2},5722$	$\bar{2},6786$	$\bar{2},7698$	$\bar{2},8459$	$\bar{3},0674$	$\bar{3},5241$	$\bar{3},8287$	$\bar{4},8096$	30'
32'	$\bar{2},3191$	$\bar{2},4551$	$\bar{2},5760$	$\bar{2},6819$	$\bar{2},7726$	$\bar{2},8481$	$\bar{3},0851$	$\bar{3},5367$	$\bar{3},8362$	$\bar{4},8342$	28'
34'	$\bar{2},3238$	$\bar{2},4594$	$\bar{2},5798$	$\bar{2},6851$	$\bar{2},7754$	$\bar{2},8504$	$\bar{3},1026$	$\bar{3},5491$	$\bar{3},8436$	$\bar{4},8570$	26'
36'	$\bar{2},3286$	$\bar{2},4636$	$\bar{2},5836$	$\bar{2},6884$	$\bar{2},7781$	$\bar{2},8526$	$\bar{3},1199$	$\bar{3},5614$	$\bar{3},8507$	$\bar{4},8782$	24'
38'	$\bar{2},3334$	$\bar{2},4679$	$\bar{2},5873$	$\bar{2},6916$	$\bar{2},7808$	$\bar{2},8549$	$\bar{3},1371$	$\bar{3},5735$	$\bar{3},8578$	$\bar{4},8976$	22'
40'	$\bar{2},3381$	$\bar{2},4721$	$\bar{2},5910$	$\bar{2},6948$	$\bar{2},7835$	$\bar{2},8571$	$\bar{3},1541$	$\bar{3},5854$	$\bar{3},8646$	$\bar{5},1538$	20'
42'	$\bar{2},3428$	$\bar{2},4763$	$\bar{2},5947$	$\bar{2},6980$	$\bar{2},7862$	$\bar{2},8593$	$\bar{3},1709$	$\bar{3},5972$	$\bar{3},8713$	$\bar{5},3146$	18'
44'	$\bar{2},3475$	$\bar{2},4805$	$\bar{2},5984$	$\bar{2},7012$	$\bar{2},7889$	$\bar{2},8614$	$\bar{3},1876$	$\bar{3},6088$	$\bar{3},8778$	$\bar{5},4585$	16'
46'	$\bar{2},3522$	$\bar{2},4847$	$\bar{2},6021$	$\bar{2},7044$	$\bar{2},7916$	$\bar{2},8636$	$\bar{3},2041$	$\bar{3},6202$	$\bar{3},8842$	$\bar{5},5854$	14'
48'	$\bar{2},3568$	$\bar{2},4888$	$\bar{2},6057$	$\bar{2},7075$	$\bar{2},7942$	$\bar{2},8657$	$\bar{3},2204$	$\bar{3},6315$	$\bar{3},8903$	$\bar{5},6954$	12'
50'	$\bar{2},3615$	$\bar{2},4930$	$\bar{2},6094$	$\bar{2},7107$	$\bar{2},7968$	$\bar{2},8678$	$\bar{3},2365$	$\bar{3},6425$	$\bar{3},8963$	$\bar{5},7885$	10'
52'	$\bar{2},3661$	$\bar{2},4971$	$\bar{2},6130$	$\bar{2},7138$	$\bar{2},7995$	$\bar{2},8700$	$\bar{3},2525$	$\bar{3},6535$	$\bar{4},0219$	$\bar{5},8646$	8'
54'	$\bar{2},3707$	$\bar{2},5012$	$\bar{2},6166$	$\bar{2},7169$	$\bar{2},8021$	$\bar{2},8720$	$\bar{3},2683$	$\bar{3},6642$	$\bar{4},0786$	$\bar{5},9238$	6'
56'	$\bar{2},3753$	$\bar{2},5053$	$\bar{2},6202$	$\bar{2},7200$	$\bar{2},8046$	$\bar{2},8741$	$\bar{3},2840$	$\bar{3},6748$	$\bar{4},1336$	$\bar{5},9662$	4'
58'	$\bar{2},3799$	$\bar{2},5093$	$\bar{2},6238$	$\bar{2},7230$	$\bar{2},8072$	$\bar{2},8762$	$\bar{3},2995$	$\bar{3},6852$	$\bar{4},1869$	$\bar{5},9915$	2'
60'	$\bar{2},3844$	$\bar{2},5134$	$\bar{2},6273$	$\bar{2},7261$	$\bar{2},8097$	$\bar{2},8782$	$\bar{3},3148$	$\bar{3},6954$	$\bar{4},2385$	1,00	0'
	189°	188°	187°	186°	185°	184°	183°	182°	181°	180°	$180^\circ \leq \theta$

Usage: $\text{hav}(180^\circ 02') = \text{hav}(179^\circ 58') = 0.999999915$ denoted as $\bar{5},9915$