

```
In[•]:= Table[Total@Table[Tan[n π / (1 + 2 m)] ^ (2 m), {n, m}], {m, 7}]
```

```
Out[•]= {3, (5 - 2 √5)² + (5 + 2 √5)², Cot[π/14]⁶ + Cot[3π/14]⁶ + Tan[π/7]⁶,
```

```
81 + Cot[π/18]⁸ + Tan[π/9]⁸ + Tan[2π/9]⁸, Cot[π/22]¹⁰ + Cot[3π/22]¹⁰ + Cot[5π/22]¹⁰ + Tan[π/11]¹⁰ + Tan[2π/11]¹⁰,
```

```
Cot[π/26]¹² + Cot[3π/26]¹² + Cot[5π/26]¹² + Tan[π/13]¹² + Tan[2π/13]¹² + Tan[3π/13]¹²,
```

```
2187 + (5 - 2 √5)⁷ + (5 + 2 √5)⁷ + Cot[π/30]¹⁴ + Cot[7π/30]¹⁴ + Tan[π/15]¹⁴ + Tan[2π/15]¹⁴}
```

```
In[•]:= FullSimplify@% // tim
```

```
118.881762,7
```

```
Out[•]= {3, 90, 7077, 1070244, 264893255, 97371674686, 49810055605065}
```