

In[18]= **ClearAll**["Global`*"];

Subscript[\mathcal{R} , 1] =

ImplicitRegion[**RealAbs**[**RealAbs**[$x - y$] - **RealAbs**[$x + y$]] $\geq 2 y - x + 1$, { x , y }];

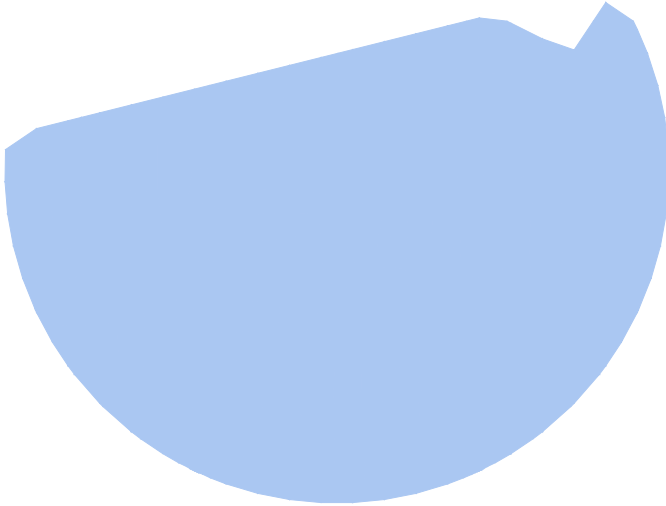
Subscript[\mathcal{R} , 2] = **ImplicitRegion**[($x + 1$)² + ($y + 1$)² ≤ 2 , { x , y }];

In[20]= \mathcal{R} = **RegionIntersection**[\mathcal{R}_1 , \mathcal{R}_2]

Out[20]= **ImplicitRegion**[

RealAbs[**RealAbs**[$x - y$] - **RealAbs**[$x + y$]] + $x \geq 1 + 2 y$ && ($1 + x$)² + ($1 + y$)² ≤ 2 , { x , y }]

In[21]= **Region**[\mathcal{R}]



Out[21]=

In[22]= **Area**[\mathcal{R}]

$$\text{Out[22]= } \frac{1}{146523} \left(113053 - 6936\sqrt{22} + 16224\sqrt{30} - 2601\sqrt{2(107 - 12\sqrt{22})} - \right. \\ \left. 1734\sqrt{11(107 - 12\sqrt{22})} - 507\sqrt{2(47 - 8\sqrt{30})} - 2028\sqrt{15(47 - 8\sqrt{30})} + \right. \\ \left. 293046\pi - 146523 \text{ArcSin}\left[\frac{1}{13}\sqrt{2(3 + \sqrt{22})}\right] - 146523 \text{ArcSin}\left[\frac{1}{17}\sqrt{2(1 + 2\sqrt{30})}\right] \right)$$