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$$\sin\left(\frac{\left[\frac{2^x}{6}\right]H}{2^x}\right) = \frac{\sqrt{2-\sqrt{2-\sqrt{2}\dots}}}{2} \text{ for } (x-1) \text{ iterations}$$

$170.\overline{6}$ round = 171

$6\sqrt{1024}$

42

so $\sin \frac{171^\circ}{1024} = \sin \frac{171^\circ}{2^{10}} =$

$$Z^{10} = 1024$$

$$\sqrt{2 - \sqrt{2 - \sqrt{2 - \sqrt{2 - \sqrt{2 - \sqrt{2 - \sqrt{2 - \sqrt{2 - \sqrt{2}}}}}}}}}}$$

Exact
Continued
Radicals
II

$$u = n^2 + n$$
$$n = \sqrt{u} - \sqrt{u-1} - \sqrt{u-4} - \dots$$

$$\begin{aligned} \sqrt{U - \sqrt{U - \sqrt{U \dots}}} &= \sqrt{U + .25 - .5} \\ \sqrt{U + \sqrt{U + \sqrt{U \dots}}} &= \sqrt{U + .25 + .5} \\ \sqrt{U + \sqrt{U - \sqrt{U \dots}}} &= \sqrt{U - .75 + .5} \\ \sqrt{U - \sqrt{U + \sqrt{U \dots}}} &= \sqrt{U - .75 - .5} \end{aligned}$$

how about this

$$\sqrt[n]{U - \sqrt[n]{U - \sqrt[n]{U - \dots}}}$$

$$-5 + \sqrt{25 + 4} = (n + 8)$$

~~1 - \sqrt{1 - \sqrt{1 - \sqrt{1 - \dots}}} = 0~~

$$2\sqrt{0+25} = \sqrt{0} + \sqrt{0+25} + \dots + \sqrt{0+25}$$

$$(\sqrt{x+25}-5)(\sqrt{x+25}+5)$$

$$(x+25) - \sqrt{x+25} + 25$$

$$\begin{aligned} \bullet 5 - \sqrt{U+25} &= -\sqrt{U} - \sqrt{U} - \sqrt{U} \dots \\ \bullet 5 + \sqrt{U+25} &= \sqrt{U} + \sqrt{U} + \sqrt{U} \dots \end{aligned}$$

$$U + \frac{1}{2} - \sqrt{U + \frac{1}{4}} = U - \sqrt{U - \sqrt{U - \sqrt{U - \dots}}}$$

$$v + \frac{1}{2} + \sqrt{v+25} \geq v + \sqrt{v + \sqrt{v + \sqrt{v + \dots}}}$$

$$\left(\sqrt{0 + \sqrt{0 + \sqrt{0 + \dots}}} \right) - \left(\sqrt{0 - \sqrt{0 - \sqrt{0 - \dots}}} \right) = 1$$