Generated by Knoty computer algebra system: https://github.com/vuphan314/Knotty

$$T2x = x^2 - 2$$

$$skeinP2Q2 = -2 + SCC(1,1)^2$$

$$lhs = \left(-2 + SCC(1,1)^2\right) SCC(1,1)$$

$$rhs = SCC(1,1) \left(-2 + SCC(1,1)^2\right)$$

$$lhsEqualRhs = \text{True}$$