Suppression of the symbolic evaluation of an expression

Write down the symbolic expression

$$k = x^2 + x \cdot y + y^2$$

Symbolically solve for y

$$k = x^2 + x \cdot y + y^2 \xrightarrow{solve, y} \begin{bmatrix} \dfrac{\sqrt{4 \cdot k - 3 \cdot x^2}}{2} - \dfrac{x}{2} \\ -\dfrac{x}{2} - \dfrac{\sqrt{4 \cdot k - 3 \cdot x^2}}{2} \end{bmatrix}$$

Define it to be equal to some arbitrary name (probably one you're going to use, though!)

$$g := k = x^2 + x \cdot y + y^2 \xrightarrow{solve, y} \begin{bmatrix} \dfrac{\sqrt{4 \cdot k - 3 \cdot x^2}}{2} - \dfrac{x}{2} \\ -\dfrac{x}{2} - \dfrac{\sqrt{4 \cdot k - 3 \cdot x^2}}{2} \end{bmatrix}$$

I used g rather than g(k,x) just to raise an error, thereby suppressing the symbolic expansion

Delete the definition operator

$$g \, \square \, \left(k = x^2 + x \cdot y + y^2 \; solve, y \rightarrow \right)$$

This wraps the symbolic solve expression in parentheses and inhibits the display of the symbolic solution

Restore the definition operator and complete the left hand side

$$g(k, x) := \left(k = x^2 + x \cdot y + y^2 \; solve, y \rightarrow \right)$$

$$g(9, 3) = ? \qquad\qquad g(64, 2) = ?$$

Here are another couple of examples:

cubic

$$h(k, x) := \left(k = x^3 + 2x \cdot y + y^2 \; solve, y \rightarrow \right)$$

$$h(12, 3) = ? \qquad\qquad h(63, 4) = ?$$

multinomial expansion

p just returns the symbolic expression

$$p(n) := (a + b + c)^n \rightarrow (a + b + c)^n$$

$$p(3) \rightarrow (a + b + c)^3$$

q returns the expansion

Note the difference between q2 and q

$$q(n) := \left[(a + b + c)^n \text{ expand } \rightarrow \right]$$

$q(0) \rightarrow q(0)$

$q(1) \rightarrow q(1)$

$q(2) \rightarrow q(2)$

$q(3) \rightarrow q(3)$

$q(4) \rightarrow q(4)$

$$q2(n) := (a+b+c)^n \xrightarrow{\text{expand}} (a+b+c)^n$$

$q2(0) \rightarrow 1$

$q2(1) \rightarrow a+b+c$

$q2(2) \rightarrow (a+b+c)^2$

$$q(n) := \left[(a + b + c)^n \text{ expand } \rightarrow \right]$$