1. Let ε denote the machine epsilon for the `Float32` format. It holds that $\varepsilon > 10^{-10}$.

2. Machine multiplication is commutative: it holds $a \widehat{\times} b = b \widehat{\times} a$ for any `Float64` point numbers a and b.

3. If $x \in \mathbb{R}$ is exactly representable as a `Float32` number, then so is $-x$.

4. The only polynomial p of degree at most 5 such that $p(0) = p(1) = p(2) = p(4) = 0$ is the zero polynomial $p(x) = 0$.

5. Given $x_0 = 0$, $x_1 = 1$, $x_2 = 2$, and $y_0, y_1, y_2 \in \mathbb{R}$, the unique quadratic interpolating polynomial through these data points is given by

$$p(x) = y_0 + (y_1 - y_0)x + \frac{1}{2}\big((y_2 - y_1) - (y_1 - y_0)\big)x(x-1).$$

6. Suppose that $\mathsf{A} \in \mathbb{R}^{20 \times 10}$ and $\mathbf{b} \in \mathbb{R}^{20}$. Then there exists a unique solution to the linear system:

$$\mathsf{A}^\top \mathsf{A} \boldsymbol{\alpha} = \mathsf{A}^\top \mathbf{b}.$$

7. Let $f(x) = \cos(2x)$, and for any $n \in \mathbb{N}$, let $f_n \in \mathcal{P}_n$ denote the polynomial interpolating f at $n+1$ equidistant points $-1 = x_0 < x_1 < \ldots < x_n = 1$. Then

$$\lim_{n \to \infty} \left(\max_{x \in [0,\infty)} \big| f(x) - f_n(x) \big| \right) = 0.$$

8. In Julia, if `A` is a matrix, then `A[isodd.(1:end), iseven.(1:end)]` returns an empty matrix.

9. The degree of precision of the composite Simpson quadrature rule with n points is equal to $3n$.

10. There exists a unique value of the weights w_1, w_2, w_3, w_4 such that the following integration rule has a degree of precision equal to 3.

$$\int_{-1}^{1} u(x) \, \mathrm{d}x = w_1 u(1) + w_2 u\left(\frac{1}{2}\right) + w_3 u\left(\frac{1}{3}\right) + w_4 u\left(\frac{1}{4}\right)$$