1. Let ε denote the machine epsilon for the `Float64` format. If $x \in \mathbf{R}$ is such that $0 < x < \varepsilon$, then x may or may not be representable in the `Float64` format.

2. Machine addition is commutative, meaning that $a \widehat{+} b = b \widehat{+} a$ for any `Float64` point numbers a and b.

3. If `x` is a `Float64` and `y` is a `Float32` number, then the result of `x + y` is a `Float32` number.

4. The only polynomial p of degree at most 3 such that $p(-1) = p(0) = p(1) = 0$ is the cubic polynomial $p(x) = x^3 - x$.

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

$$p(x) = \frac{(x - x_1)(x - x_2)}{(x_0 - x_1)(x_0 - x_2)} y_0 + \frac{(x - x_0)(x - x_2)}{(x_1 - x_0)(x_1 - x_2)} y_1 + \frac{(x - x_0)(x - x_1)}{(x_2 - x_0)(x_2 - x_1)} y_2.$$

6. Given $x_0 < \ldots < x_n$ and $y_0, \ldots, y_n \in \mathbb{R}$, the constant polynomial p that minimizes $\sum_{i=0}^{n} |y_i - p(x_i)|^2$ is given by

$$p(x) = \frac{1}{n+1} \sum_{i=0}^{n} y_i.$$

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

$$\lim_{n \to \infty} \left(\max_{-1 \leq x \leq 1} \left| f(x) - f_n(x) \right| \right) = 0.$$

8. In Julia, if `A` is a matrix, then `A[:, iseven.(1:end)]` gives the matrix obtained by keeping only the columns with even indices.

9. The degree of precision of the Gauss–Legendre quadrature rule with n points is equal to $2n - 1$.

10. The degree of precision of the following integration rule is 3.

```
function I_approx(a, b, n)
    x = LinRange(a, b, n + 1)
    h = x[2] - x[1]
    return h * sum(f, x[1:n] .+ h/2)
end
```