(1) Find a pattern for raising $n \epsilon N$ to a power $k \epsilon N$.

(2) When does $(a+b)(a-b) = a^2+b^2$?

(3) When does $(a+b)(a+b) = a^2+b^2$?

(4) Generate algorithms for approximating $\sqrt{2}$.

(5) What is i^k for $k \in N$?

(6) What is $(a+bi)(a+bi)$ and $(a+bi)(a-bi)$?

(7) What is $(a+bi)^{-1}$?

(8) If $y=(1-x)^{-1}$ find a pattern for y',y'',y''',...

(9) Graph $y = p(x) = x^n$ for $-1 \le x \le 1$ as $n \in N \to \infty$.

(10)   Explain why Horner's algorithm for polynomials is so fast.