$\sum_{k=a}^{n} q^k = ?$

5 $Th' = \frac{1}{ch^2} = 1 - th^2$

$Tan' = \frac{1}{\cos^2} = 1 + Tan^2$

$\arcsin x + \arccos x = \frac{\pi}{2}$

arccos', arctan', aresin'

$\arctan x + \arctan \frac{1}{x} = \begin{cases} \frac{\pi}{2} & x > 0 \\ -\frac{\pi}{2} & x < 0 \end{cases}$

cosa cosb = ?
sina sinb = ?
sina cosb = ?

7 $|z|^2 = z\bar{z}$

$az^2 + bz + c = 0$

$z_1 z_2 = \frac{c}{a}$ $z_1 + z_2 = \frac{-b}{a}$

10) $U_{n+1} = aU_n + b$

$U_{n+2} + aU_{n+1} + bU_n = 0$

$y' + a(t)y = b(t)$

$y'' + ay' + by = c(t)$

15) groupe anm
ss gr ssanm
mor (gr, anm)
integre corps

16) $(a \vee b)(a \wedge b) = ab$

Fermat $a^p \equiv a\ [p]$
si $p \nmid a$, $a^{p-1} \equiv 1\ [p]$

18) $(-1)^k \frac{a_{n-k}}{a_n} = \sum_{1 \le i_1 < \dots < i_k \le n} \lambda_{i_1} \cdots \lambda_{i_k}$

18) Lagrange

19) $U_n = o(V_n)$

$\Leftrightarrow \exists \varepsilon_n, \varepsilon_n \to 0$ et
$\exists n_0 \in \mathbb{N}, \forall n \ge n_0, U_n = \varepsilon_n V_n$

$U_n \sim V_n$

$\Leftrightarrow \exists \theta_n, \theta_n \to 1$ et
$\exists n_0 \in \mathbb{N}, \forall n \ge n_0, U_n = \theta_n V_n$

$U_n = O(V_n)$

$\Leftrightarrow \exists K \in \mathbb{R}$
$\exists n_0, \forall n \ge n_0 \quad U_n \le K V_n$

20) $\mathrm{Im}\, p = \mathrm{Ker}(p - id_E)$: p fixes
$\mathrm{Ker}(s - id_E) \oplus \mathrm{Ker}(s + id_E) = E$
s symetrie par rapport $\mathrm{Ker}(s-id_E)$ // $\mathrm{Ker}(s+id_E)$

21) Les DL

26) $M_{B_1,e_2}(f) = P_{e_2}^{B_2 e_1} M_{B_1,e_1}(f) P_{B_1}^{B_2}$

30) comA
$A(\mathrm{com}A)^T = \det(A) I_n$

32) Produit scalaire
CS: $\langle x|y\rangle^2 \le \langle x|x\rangle\langle y|y\rangle$ ~~$\le \|x\|\|y\|$~~
$\langle x|y\rangle \le \|x\|\|y\|$
orthogonalité
Gram-Schmidt