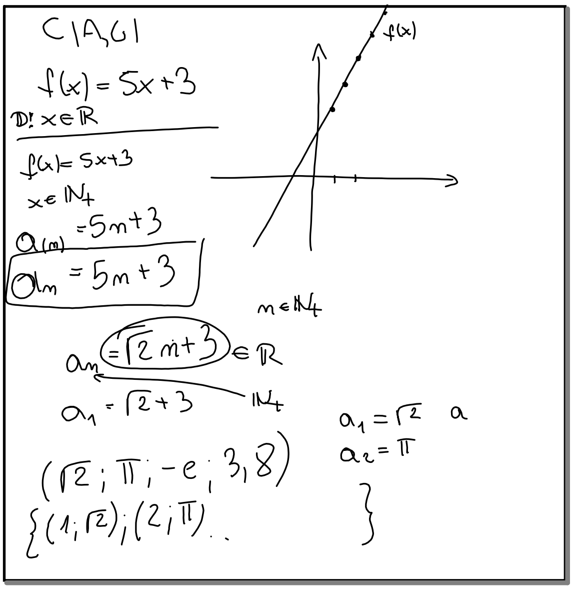
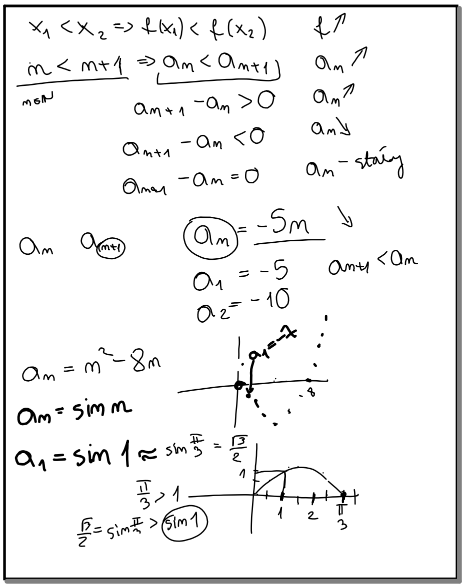
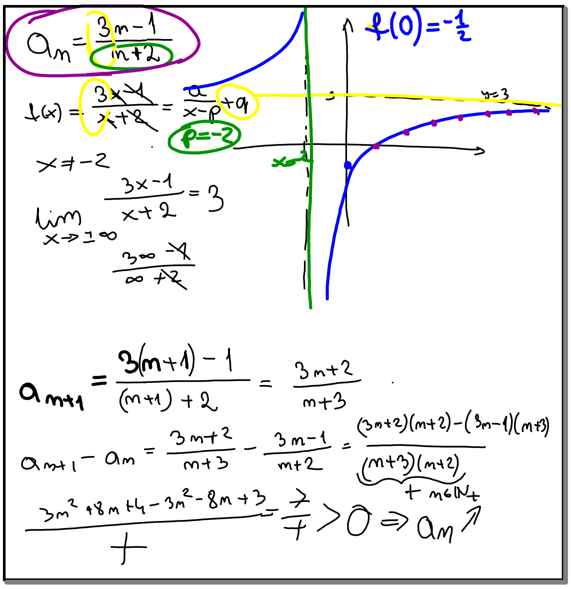
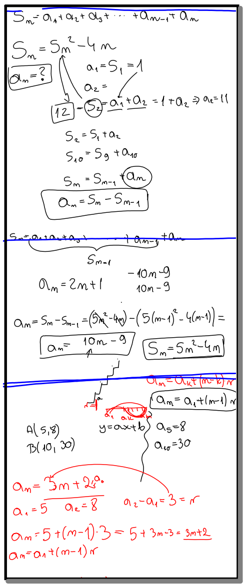
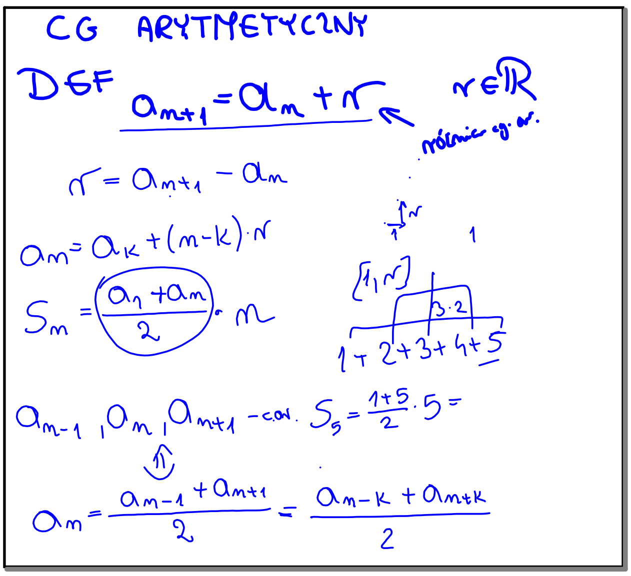
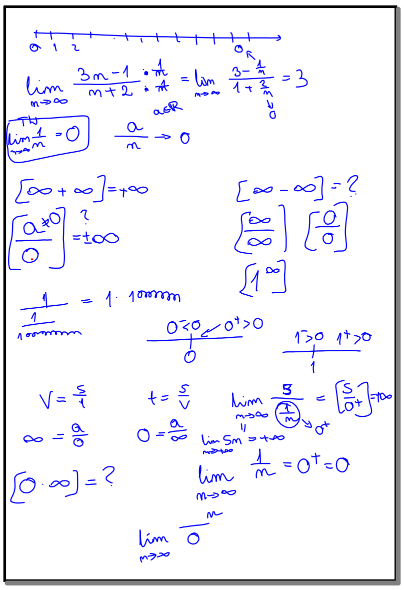

CIĄGI
f(x) = 5x + 3
D: x ∈ R
f(x) = 5x+3
x ∈ N+
a(n) = 5n+3
an = 5n + 3
n ∈ N+
an = √(2n+3) ∈ R
a1 = √(2+3)
N+
a1 = √2
a2 = π
(√2; π; −e; 3, 8)
{(1; √2); (2; π)} ..
f(x)


x1 < x2 ⇒ f(x1) < f(x2)
n < n+1 ⇒ an < an+1
n ∈ N
an+1 − an > 0
an+1 − an < 0
an+1 − an = 0
an − stały
an = −5n
a1 = −5
a2 = −10
an+1 < an
an = n² − 8n
an = sin n
a1 = sin 1 ≈ sin π/3 = √3/2
π/3 > 1
√3/2 = sin π/3 > sin 1


an = (3n − 1)/(n + 2)
f(0) = −1/2
f(x) = (3x − 1)/(x + 2) = a/(x − p) + q
p = −2
x ≠ −2
lim x→±∞ (3x − 1)/(x + 2) = 3
y = 3
x = −2
an+1 = (3(n+1) − 1)/((n+1) + 2) = (3n+2)/(n+3)
an+1 − an = (3n+2)/(n+3) − (3n−1)/(n+2) = ((3n+2)(n+2) − (3n−1)(n+3))/((n+3)(n+2))
+ n ∈ N+
(3n² + 8n + 4 − 3n² − 8n + 3)/+ = 7/+ > 0 ⇒ an ↗


Sn = a1 + a2 + a3 + ... + an−1 + an
Sn = 5n² − 4n
an = ?
a1 = S1 = 1
S2 = S1 + a2
S10 = S9 + a10
Sn = Sn−1 + an
an = Sn − Sn−1
an = 2n + 1
an = Sn − Sn−1
Sn = 5n² − 4n
an = a1 + (n−1)r
y = ax + b
a5 = 8
a10 = 30
an = 3n + 2
a1 = 5   a2 = 8
an = 5 + (n−1)·3 = 5 + 3n − 3 = 3n+2
an = a1 + (n−1)r


CG ARYTMETYCZNY
DEF an+1 = an + r   r ∈ R
różnica ciągu ar.
r = an+1 − an
an = ak + (n − k)·r
Sn = (a1 + an)/2 · n
1 + 2 + 3 + 4 + 5
an−1, an, an+1 − c.ar. S5 = (1+5)/2 · 5 =
an = (an−1 + an+1)/2 = (an−k + an+k)/2


lim n→∞ (3n − 1)/(n + 2) = lim n→∞ (3 − 1/n)/(1 + 2/n) = 3
lim n→∞ 1/n = 0
a/n → 0
[∞ + ∞] = +∞
[∞ − ∞] = ?
[a≠0 / 0] = ±∞
[∞/∞] [0/0]
[1^∞]
V = s/t   t = s/V
∞ = a/0   0 = a/∞
lim n→∞ 1/n = 0⁺ = 0
[0 · ∞] = ?

$$\lim_{m\to\infty}\left(\frac{m^3-\sqrt{m^6-5m^3}}{1}\right)=[\infty-\infty]$$

$(a-b)$ $(a+b)$ $(a+b)$?

stL = 3 stM = 3

$$\lim_{m\to\infty}\frac{m^3-m^3+5m^3}{m^3+\sqrt{m^6-5m^3}}\ \Big/\frac{1}{m^3}=$$

$$\lim_{m\to\infty}\frac{5}{1+\sqrt{1-\frac{5}{m^3}}}=\frac{5}{1+1}=\frac{5}{2}$$

$\frac{5}{m^3}\to 0$, $\sqrt{1-\frac{5}{m^3}}\to 1$

$\frac{5}{\sqrt{m}}\to 0$, $\frac{1}{\sqrt{m}}\to 0$, $\sqrt{1}\to 1$, $\frac{5}{\sqrt{m}}=0$

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$$a_m=\frac{3^{m+1}+2^{3+2m}}{2^{2m+1}+3^m}=\frac{3\cdot 3^m+8\cdot 4^m}{2\cdot 4^m+3^m}\ \Big/\frac{\left(\frac{1}{4}\right)^m}{\left(\frac{1}{4}\right)^m}$$

$$\lim_{m\to\infty}\frac{3\cdot\left(\frac{3}{4}\right)^m+8}{2\cdot+\left(\frac{3}{4}\right)^m}=\frac{8}{2}=4$$

$\left(\frac{3}{4}\right)^m\to 0$

$$\lim_{m\to\infty}2m-\sqrt[3]{8m^3-2m^2}$$

$(a-b)(a^2+ab+b^2)$

a^3-b^3

$$a-b=\frac{a^3-b^3}{a^2+ab+b^2}$$