Nexque 21; 27.02.24 Expense with the Commencer f(x) nenpepulbua на [a;b] /\* F(x) = If(x) dx \*/ Popmyra Ubbrona - New Shuya: P(x) neplooop f(x) Ha (a;b), rorga Jf(x)dx = P(b) - P(a) = P(b) a Теорема (Формула интегр. по частям): f(x) a g(x) Henp. Ha [a; b] u guapap.  $\int f(x) dg(x) = f(x)g(x) - \int g(x) df(x)$ Dox-bo: (f(x)g(x))' = f(x)g'(x) + f'(x)g(x) $\int (f(x)g(x))dx = \int f(x)g'(x)dx + \int f'(x)g(x)dx$ neploosρ. (ω) g(x) Теорема (Формула Замены переменной): u(t) - непр. дифрр на [piq]  $\forall t \in [p;q]$   $u(t) \in [\alpha;\beta]$   $f(x) = nenp. na [\alpha;\beta]$ u(p)=a u(q)=b [a;b]c[x;s] $= \int_{\alpha} f(x) dx = \int_{\alpha} u'(t) \cdot f(u(t)) dt$ 

F(x) - neploosρ. 
$$f(x)$$
 μα  $(x; A)$ 

F(u(t)) - neploosρ.  $u'(t) \cdot f(u(t))$ 
 $\int f(x) dx = F(b) - F(a)$ 
 $\int f(u(t)) \cdot u'(t) dt = f(u(q)) - F(u(p)) = F(b) - F(a)$ 

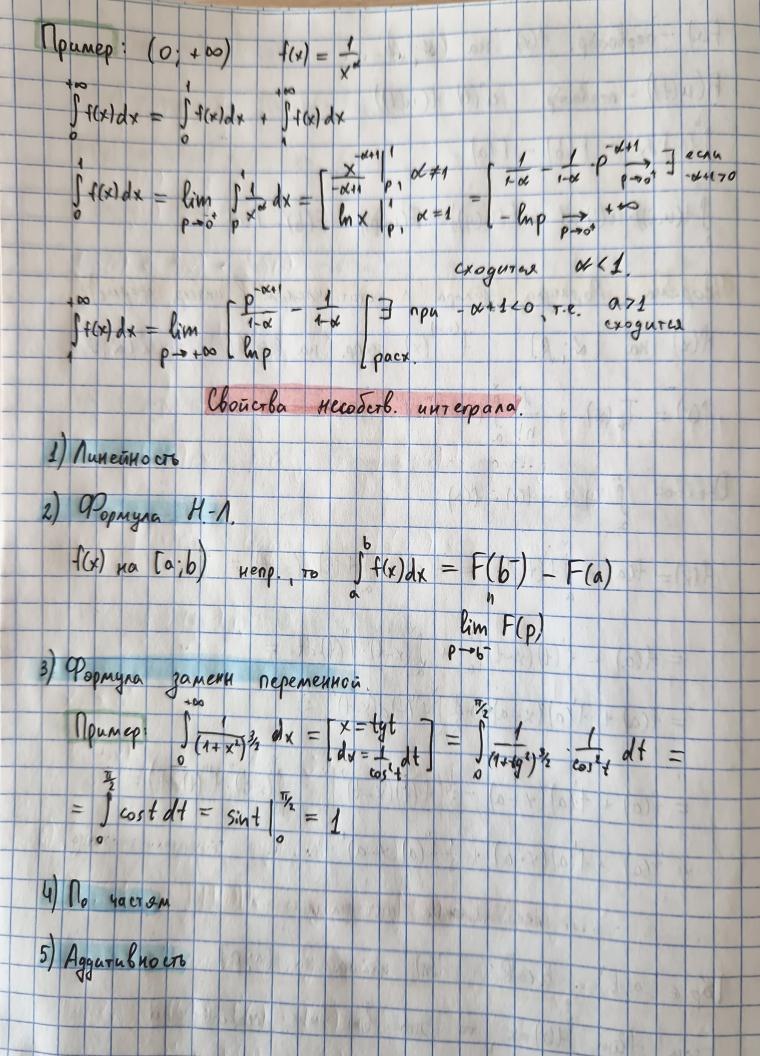
Frequence (Poparyna Trinopa o ocrar. unenom  $b$  unresp. gropue):

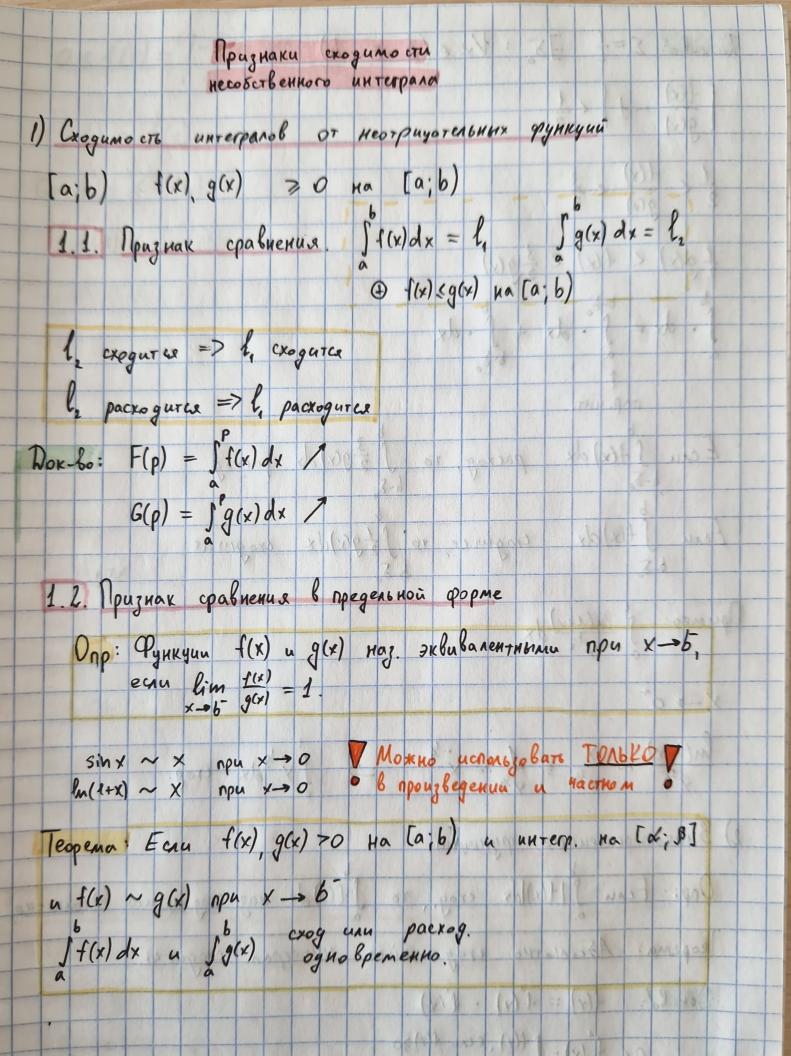
 $f(x)$  μα  $[x'; A]$   $f^{(n+1)}(x)$  μεορ. μα  $(x; B)$   $a, x \in (x; B)$ 
 $f(x) = T_n(x) + \frac{1}{n!} \int_a^x (x-t)^n \cdot f^{(n+1)}(t) dt$ 

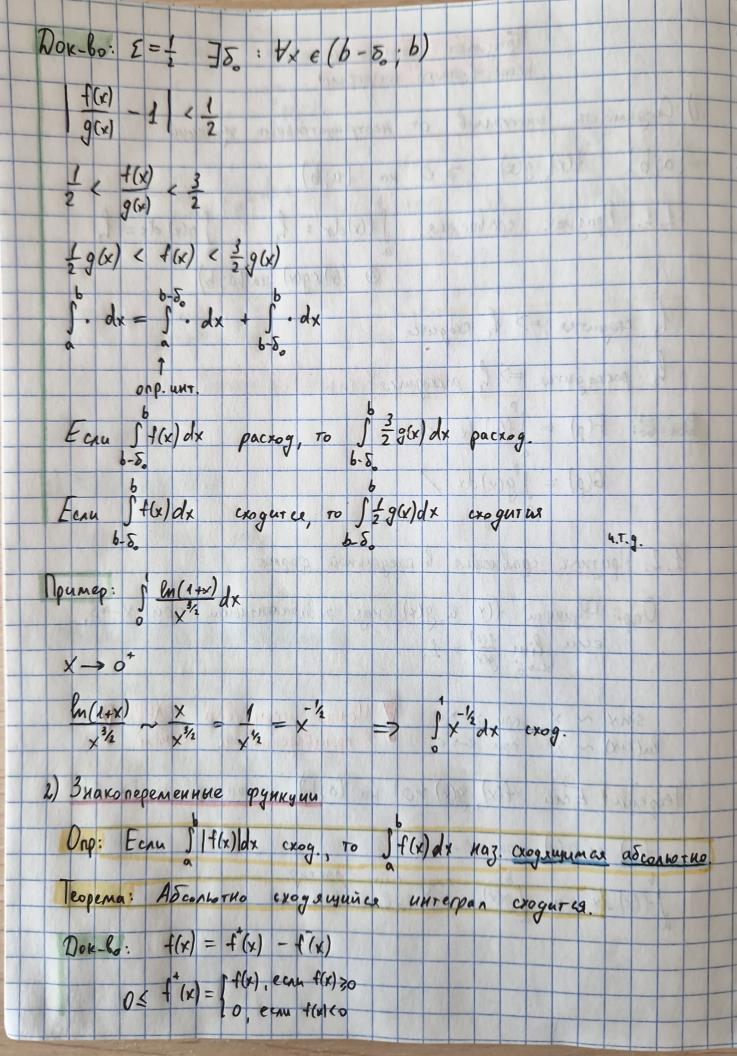
Dox-bo:  $\int f'(t) dt = f(x) - f(a)$ 
 $f(x) = f(a) + \int f'(t) dt = f(a) - \int f'(t) d(x-t)^2 =$ 
 $f(a) + f'(a)(x-a) - \frac{1}{2} \int_a^x f''(t) d(x-t)^2 =$ 
 $f(a) + f'(a)(x-a) + \int_a^x f''(t)(x-t)^2 \int_a^x f'(x-t)^2 \cdot f''(t) dt =$ 
 $f(a) + f'(a)(x-a) + \int_a^x f''(t)(x-t)^2 \cdot f''(t) dt =$ 
 $f(a) + f'(a)(x-a) + \int_a^x f''(t)(x-t)^2 \cdot f''(t) dt =$ 
 $f(a) + f'(a)(x-a) + \int_a^x f''(t)(x-a)^2 + \dots$ 

Hecobarbentule unterpant

 $f(x) = f(x) + f'(x) + f(x) + f(x)$ 







$$0 \le f(x) = \begin{cases} -f(x), e_{x} & f(x) < 0 \\ 0, e_{x} & f(x) > 0 \end{cases}$$

$$|f(x)| = f(x) + f(x)$$

$$|f(x)| \le |f(x)|$$

$$|f(x)| \le |f(x)|$$