Demidovich $\boxed{3714}$

$f : [A, B] \to \mathbb{R}$ je spojitá, potom:

$$\lim_{h\to 0} \frac{1}{h} \int_a^x [f(t+h) - f(t)]\, dt = f(x) - f(a)$$

a to $\forall a, x : \quad A < a < x < B$

d.: ak f je spojitá, potom $x \mapsto \int^x f$ je spojite diferencovateľná a $\frac{d}{dx} \int^x f = f(x)$

takže: ozn $\int_a^x f = F(x) - F(a)$ a potom

$$\int_a^x [f(t+h) - f(t)]\, dt = F(x+h) - F(a+h) - (F(x) - F(a)) =$$

$$= \{F(x+h) - F(x)\} - \{F(a+h) - F(a)\} \overset{\text{ozn}}{=} \alpha$$

a potom

$$\lim_{h\to 0} \frac{\alpha}{h} = \lim_{h\to 0} \frac{F(x+h) - F(x)}{h} - \lim_{h\to 0} \frac{F(a+h) - F(a)}{h} =$$

$$= F'(x) - F'(a) =$$

$$= f(x) - f(a)$$