5(B) $\int_0^{+\infty} \operatorname{sen}(t^2)\,dt$

$$\int_0^{+\infty} \frac{\operatorname{sen}(t)}{t} = \int_0^1 \frac{\operatorname{sen}(t)}{t} + \int_1^{+\infty} \frac{\operatorname{sen}(t)}{t}$$

$f' \longrightarrow \operatorname{sen}(t) \Rightarrow f = -\cos$

$g' = \frac{1}{t^2} \longleftarrow g = \frac{1}{t}$

$$\int u'v = uv - \int uv'$$

$$= -\frac{\cos t}{t}\Big|_0^1 - \int_0^1 \frac{\operatorname{sen} t}{t^2}\,dt$$

$$= \underbrace{-\frac{\cos t}{t}}_{-\cos(1)} + \underbrace{\frac{\cos t}{t}}_{1}\Big|_0^{+\infty} - \int_0^1 \frac{\operatorname{sen} t}{t^2}\,dt$$

$t \to 1$, $t \to 0$ ⇝ Duda

$$\int \frac{|\operatorname{sen} t|}{t^2}\,dx \qquad \frac{|\operatorname{sen} t|}{t^2} \leq \frac{1}{t^2}$$ converge.