

Rješenja prvog međuispita iz Matematike 3E i 3R
21.10.2010.

1. (2 boda)

$$T = \frac{8}{3}$$

2. (4 boda)

$$f(x) = \frac{2}{\pi} - \frac{4}{\pi} \sum_{n=1}^{\infty} \frac{\cos 2nx}{4n^2-1}, \quad \sum_{n=1}^{\infty} \frac{1}{4n^2-1} = \frac{1}{2}$$

3. (4 boda)

$$f(x) = \frac{2}{\pi} \int_0^{\infty} \frac{\sin \lambda \pi \cos \lambda \pi}{\lambda} d\lambda, \quad \int_0^{\infty} \frac{\sin \lambda \pi}{\lambda} d\lambda = \frac{\pi}{2}$$

4. (7 bodova)

- a) Ispitati sva 3 svojstva iz definicije.
- b) Knjiga
- c) Knjiga

5. (4 boda)

$$y(t) = \left(2 \cos t + \frac{1}{2}t \sin t\right) u(t)$$

6. (4 boda)

$$y(t) = \sin(t)u(t) + t \sin(t)u(t) + (t - \pi) \sin(t - \pi)u(t - \pi)$$

7. (4 boda) $E(t) = \delta(t)$