

Rješenja zadataka 3.5

Zadatak 1. Izračunaj sljedeće limese:

$$1) \lim_{x \rightarrow 0} \frac{x^2 - 1}{x + 3};$$

$$2) \lim_{u \rightarrow 2} \frac{u^2 - 2u + 1}{u + 1};$$

$$3) \lim_{x \rightarrow 3} \frac{2x + 5}{2 + x^2};$$

$$4) \lim_{x \rightarrow -1} \frac{x}{2 + x};$$

$$5) \lim_{x \rightarrow -2} (x^2 + 3x - 2);$$

$$6) \lim_{x \rightarrow 8} \frac{\sqrt[3]{x} + 2}{x + 2}.$$

Rješenje.

$$1) \lim_{x \rightarrow 0} \frac{x^2 - 1}{x + 3} = -\frac{1}{3},$$

$$2) \lim_{n \rightarrow 2} \frac{n^2 - 2n + 1}{n + 1} = \frac{4 - 4 + 1}{2 + 1} = \frac{1}{3},$$

$$3) \lim_{x \rightarrow 3} \frac{2x + 5}{2 + x^2} = \frac{6 + 5}{2 + 9} = \frac{11}{11} = 1,$$

$$4) \lim_{x \rightarrow -1} \frac{x}{2 + x} = \frac{-1}{1} = -1,$$

$$5) \lim_{x \rightarrow -2} (x^2 + 3x - 2) = 4 - 6 - 2 = -4,$$

$$6) \lim_{x \rightarrow 8} \frac{\sqrt[3]{x} + 2}{x + 2} = \frac{\sqrt[3]{8} + 2}{8 + 2} = \frac{4}{10} = \frac{2}{5}.$$