

**Zadatak 3.** Za zadanu funkciju  $f$  izračunaj limes u točki  $a$ :

$$1) f(x) = \frac{|x|}{x}, a = 1;$$

$$2) f(x) = \frac{|x|}{x}, a = -2;$$

$$3) f(x) = \frac{|x|}{x}, a = 0;$$

$$4) f(x) = \frac{1}{x-1}, a = -1;$$

$$5) f(x) = \frac{1}{x-1}, a = 0;$$

$$6) f(x) = \frac{1}{x-1}, a = 1;$$

$$7) f(x) = x \frac{|x-1|}{x-1}, a = 1;$$

$$8) f(x) = \frac{x-4}{x-2}, a = 2.$$

*Rješenje.*

$$1) \lim_{x \rightarrow 1} \frac{|x|}{x} = 1,$$

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

$$3) \lim_{x \rightarrow 0} \frac{|x|}{x} \text{ ne postoji,}$$

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

$$5) \lim_{x \rightarrow 0} \frac{1}{x-1} = -1,$$

$$6) \lim_{x \rightarrow 1} \frac{1}{x-1} \text{ ne postoji,}$$

$$7) \lim_{x \rightarrow 1} x \frac{|x-1|}{x-1} \text{ ne postoji,}$$

$$8) \lim_{x \rightarrow 2} x \frac{x-4}{x-2} \text{ ne postoji.}$$