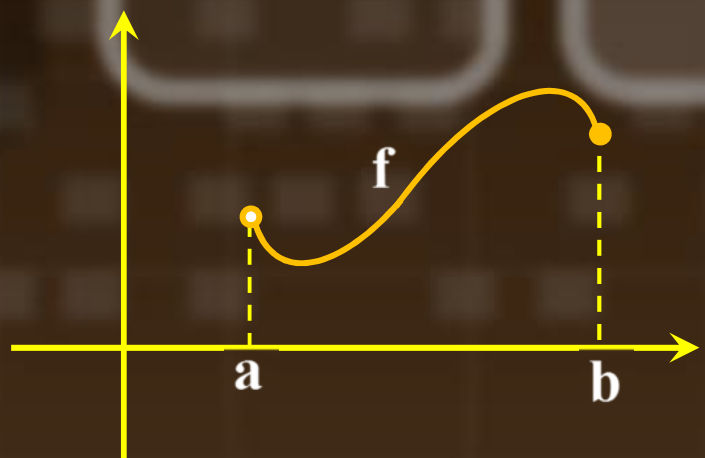
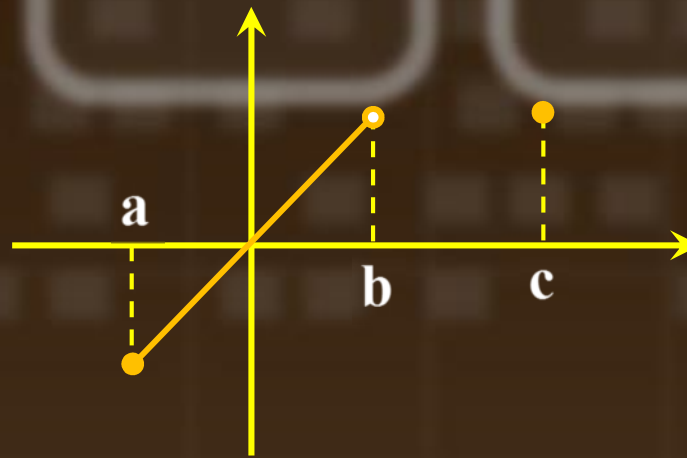


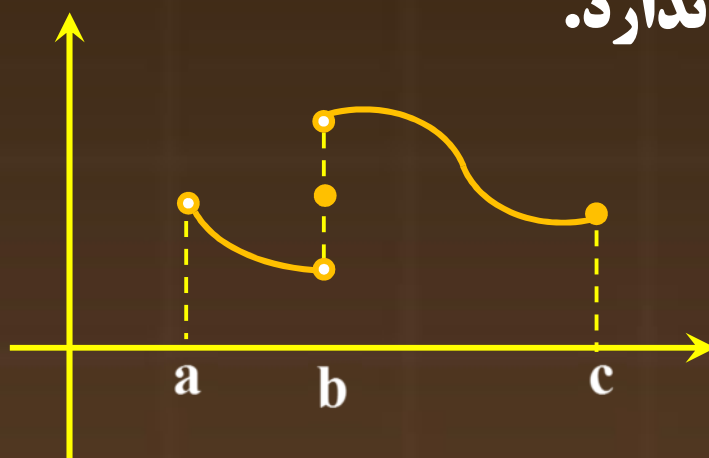
تذکره:



تابع f پیوسته



شرایط بررسی پیوستگی در b و c را ندارد.



تابع f ناپیوسته

مثال: $f(x) = \begin{cases} -\frac{1}{2} & x < 0 \\ 2x & x \geq 0 \end{cases}$ و $g(x) = \begin{cases} -2x & x < 0 \\ 1 & x \geq 0 \end{cases}$ پیوستگی هر یک

از توابع زیر را بررسی کنید.

$$f + g = \begin{cases} -2x - \frac{1}{2} & x < \diamond \\ 2x + 1 & x \geq \diamond \end{cases}$$

$$(f + g)(\diamond) = 1$$

$$\lim_{x \rightarrow \diamond^+} (f + g) = 1$$

$$\lim_{x \rightarrow \diamond^-} (f + g) = -\frac{1}{2}$$

$$f = \begin{cases} -\frac{1}{2} & x < \diamond \\ 2x & x \geq \diamond \end{cases}$$

$$f \circ f(x) = \begin{cases} -\frac{1}{2} & x < \diamond \\ 2x & x \geq \diamond \end{cases}$$

$$\lim_{x \rightarrow \diamond^+} f \circ f(x) = \diamond$$

$$\lim_{x \rightarrow \diamond^-} f \circ f(x) = -\frac{1}{2}$$

$$f = \begin{cases} -\frac{1}{2} & x < \diamond \\ 2x & x \geq \diamond \end{cases}$$

$$g = \begin{cases} -2x & x < \diamond \\ 1 & x \geq \diamond \end{cases}$$

$$f \circ g(x) = \begin{cases} -2x & x < \diamond \\ 2 & x \geq \diamond \end{cases}$$

$$\lim_{x \rightarrow \diamond^+} f \circ g(x) = 2$$

$$\lim_{x \rightarrow \diamond^-} f \circ g(x) = \diamond$$

$$f = \begin{cases} -\frac{1}{2} & \mathbf{x} < \diamond \\ 2\mathbf{x} & \mathbf{x} \geq \diamond \end{cases}$$

$$g = \begin{cases} -2\mathbf{x} & \mathbf{x} < \diamond \\ 1 & \mathbf{x} \geq \diamond \end{cases}$$

$$\mathbf{gof}(\mathbf{x}) = \begin{cases} 1 & \mathbf{x} < \diamond \\ 1 & \mathbf{x} \geq \diamond \end{cases} \Rightarrow \mathbf{gof}(\mathbf{x}) = 1$$