



Оформить подпис...



Пояснения / Thomas' Calculus

## Упражнение 11

Глава 4, раздел 4.2, страница 195

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Thomas' Calculus

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Содержание

## Объяснения Проверено

Осталось 1 объяснение.

Попробовать бесплатно

### Объяснение А    Объяснение Б

#### Шаг 1

1 из 2

We are given

$$f(x) = \begin{cases} x^2 - x, & -2 \leq x \leq -1 \\ 2x^2 - 3x - 3, & -1 < x \leq 0 \end{cases}$$

and we need to determine whether  $f(x)$  on  $[-2, 0]$  satisfy the hypotheses of the MVT.The **Mean Value Theorem** (MVT) states that:

Suppose  $f(x)$  is continuous on a closed interval  $[a, b]$  and differentiable on the open interval  $(a, b)$ . Then there is at least one point  $c$  in  $(a, b)$  at which

$$\frac{f(b) - f(a)}{b - a} = f'(c)$$

Следующее упражнение

## Шаг 2

2 из 2

Notes:

1) In order to show the given function  $f(x)$  on the given closed interval  $[a, b]$  satisfies the hypotheses of the MVT, we need to show the following:

- $f$  is continuous on  $[a, b]$ .
- $f$  is differentiable on  $(a, b)$ .

If either one of these two conditions fails, then it doesn't satisfy the hypotheses of the MVT and thus the MVT doesn't apply.

2) If both conditions pass, then there is at least one value  $c$  in  $(a, b)$  such that  $\frac{f(b) - f(a)}{b - a} = f'(c)$ . However, we don't need to find  $c$  since that is not the point of this exercise.

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Конфиденциальность

Условия

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Следующее упражнение