



Find critical numbers

1Find the derivative $f'(x)$.

if $f(x) = c$, $f'(x) = 0$

[12pt] $f(x) = 6$

A

$f'(x) = 1$

B

$f'(x) = 0$

C

$f'(x) = 6x$

D

$f'(x) = 6$

2Find the derivative $f'(x)$.

$f(x) = \frac{3}{2}$

A

$f'(x) = 1$

B

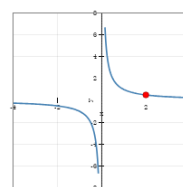
$f'(x) = \frac{3}{2}$

C

$f'(x) = 0$

D

$f'(x) = \frac{3}{2}x$

3At the highlighted point, is $f'(x)$ positive, negative, or zero?

A Negative

B Positive

C Can't be determined

D Zero

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What are the critical numbers (x-values) of the extrema (maxima or minima)?

$f(x) = 2x^3 - 18x^2 + 48x - 4$

$f'(x) = 6x^2 - 36x + 48$

A

$x = 3$

B

$x = 2, 3, 4$

C

$x = 2$

D

$x = 2, 4$

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What are the critical numbers (x-values) of the function?

$f(x) = 2x^3 - 6x^2 - 2$

$f'(x) = 6x^2 - 12x$

$f''(x) = 12x - 12$

A

$x = 0, 2$

B

$x = 0$

C

$x = 1$

D

$x = 0, 1, 2$

6

What are the critical numbers (x-values) of the function?

$f(x) = -2x^3 + 6x + 2$

A

$x = -1, 1$

B

$x = -1, 0, 1$

C

$x = 0$

D

$x = -1$

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What are the critical numbers (x-values) of the extrema (maxima or minima)?

$f(x) = 2x^3 - 6x + 2$

A

$x = -1$

B

$x = -1, 1$

C

$x = -1, 0, 1$

D

$x = 0$



Find critical numbers

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Is $x = 1$ a valid critical number of this function on the interval?

$$f(x) = 2x^3 + 6x^2 - 18x$$

on $[-4, 3]$

A Yes

B No

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What are the critical numbers (x-values) of the function?

$$f(x) = -2x^3 + 6x^2 + 18x - 3$$

A $x = -1, 1, 3$ B $x = 1$ C $x = -1, 3$ D $x = -1$ **10**

What are the critical numbers (x-values) of the extrema (maxima or minima)?

$$f(x) = 2x^3 - 12x^2 + 4$$

A $x = 2$ B $x = 0$ C $x = 0, 4$ D $x = 0, 2, 4$ **11**

Is $x = -1$ a valid critical number of this function on the interval?

$$f(x) = 2x^3 - 6x - 2$$

on $[-2, 2]$

A No

B Yes

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What are the critical numbers (x-values) of the function?

$$f(x) = 2x^3 - 6x^2 - 18x - 1$$

A $x = -1$ B $x = -1, 3$ C $x = 1$ D $x = -1, 1, 3$