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$f'(x) < 0 (x > 0) \nRightarrow \lim_{x \to \infty} f(x) = -\infty$

$f'(x) < 0 (x > 0) \not\Rightarrow \lim_{x \to \infty} f(x) = -\infty$

$$f'(x) < 0 \quad (x > 0)$$

$f'(x) < 0 \quad (x > 0) \Rightarrow$

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?

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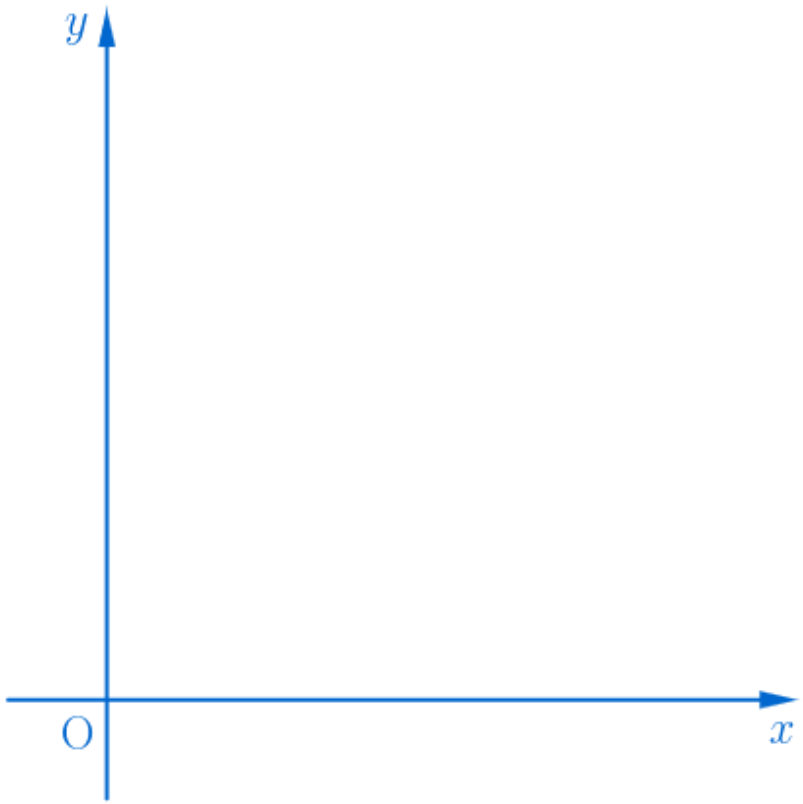
?



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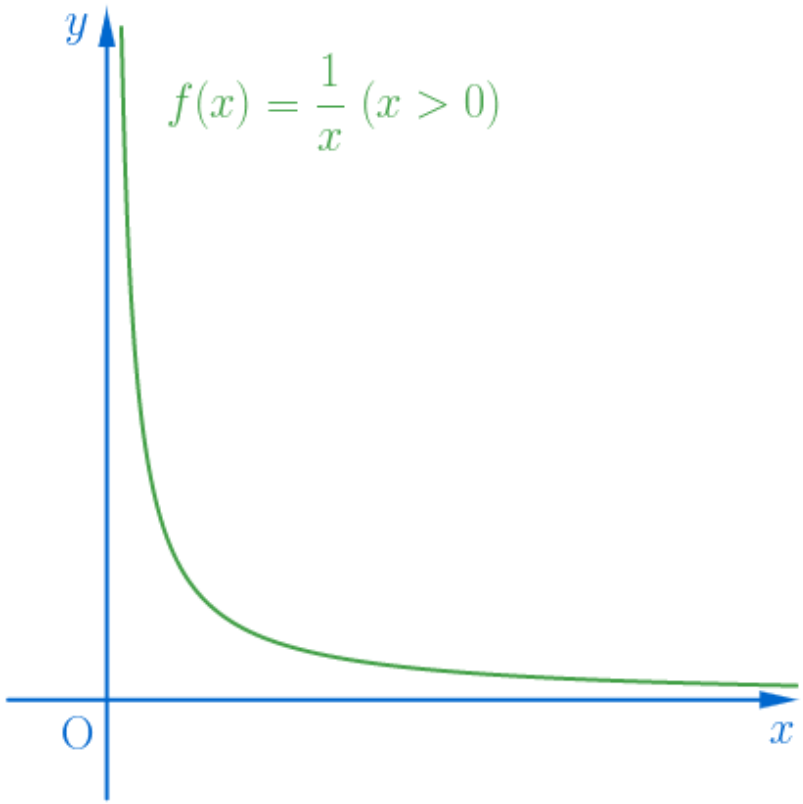

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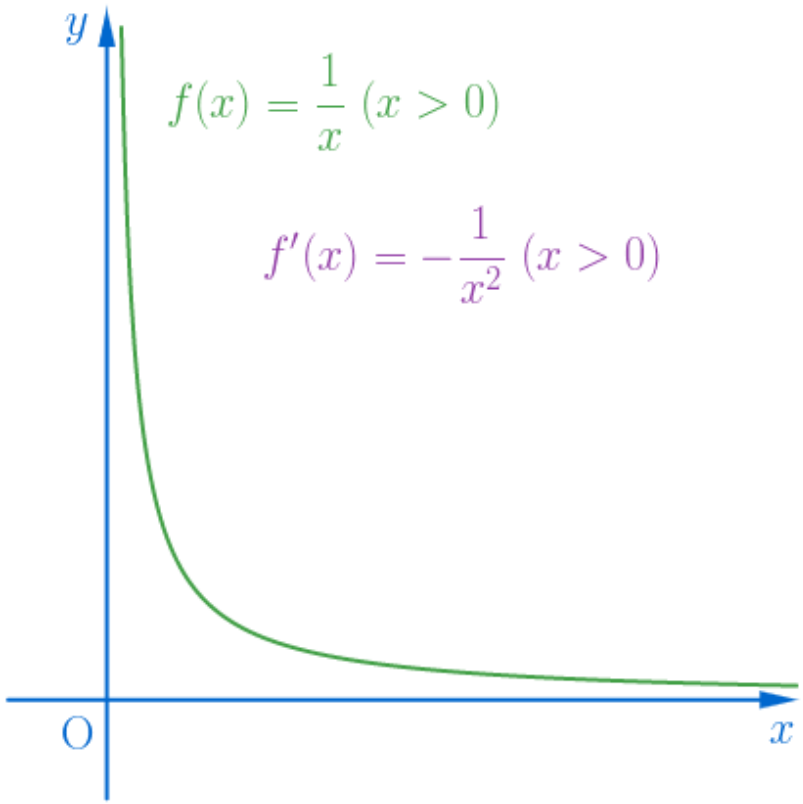

$$f(x) = \frac{1}{x} \ (x > 0)$$

$$f'(x) = -\frac{1}{x^2} \ (x > 0)$$

$$f'(x) < 0 \ \ (x > 0) \Rightarrow \lim_{x\to\infty} f(x) = -\infty$$

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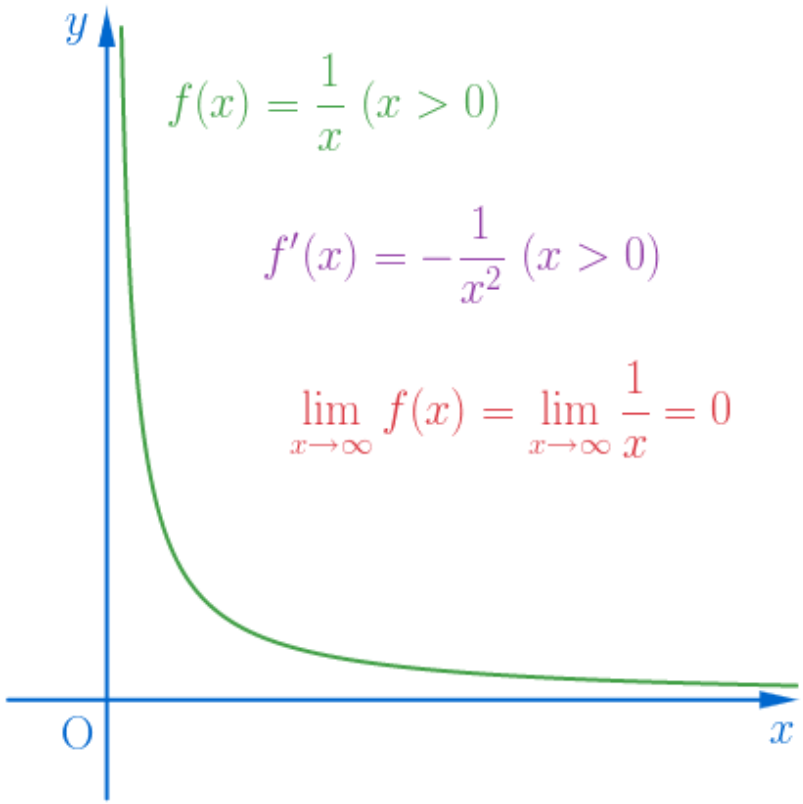

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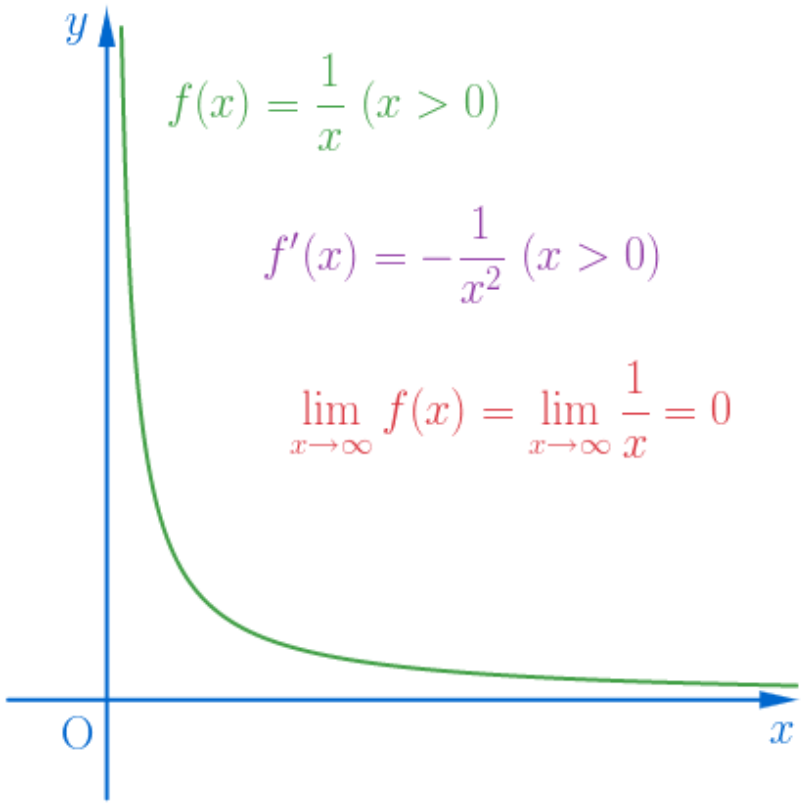
$$f'(x) < 0 \ \ (x > 0) \ \nRightarrow \lim_{x\to\infty} f(x) = -\infty$$



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$$\lim_{x\to\infty} f(x) = \lim_{x\to\infty} \frac{1}{x} = 0$$

AlgegoMath: http://me2.do/Fpp1v2yq
YouTube: https://youtu.be/y1QGEWuLN1Y

Click or paste URL into the URL search bar, and you can see a picture moving.