

Calculus 2 5 Continuity and Discountinuity

Lesson 262 | Calculus AB | Continuity

<https://www.youtube.com/watch?v=fp60copHUXY>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Define $f(x) = (x^2 - 169)/(x - 13)$ for $x \neq 13$, and $f(13) = k + 2$. Find k for continuity.

02

Define $f(x) = (x^2 - 25)/(x - 5)$ for $x \neq 5$, and $f(5) = k + 4$. Find k for continuity.

03

Define $f(x) = (x^2 - 64)/(x - 8)$ for $x \neq 8$, and $f(8) = k + 11$. Find k for continuity.

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04

Define $f(x) = (x^2 - 100)/(x - 10)$ for $x \neq 10$, and $f(10) = k + 4$. Find k for continuity.

05

Define $f(x) = (x^2 - 196)/(x - 14)$ for $x \neq 14$, and $f(14) = k + 7$. Find k for continuity.

06

Define $f(x) = (x^2 - 144)/(x - 12)$ for $x \neq 12$, and $f(12) = k + 3$. Find k for continuity.

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01

Define $f(x) = (x^2 - 169)/(x - 13)$ for $x \neq 13$, and $f(13) = k + 2$. Find k for continuity.

For $x \neq 13$, $f(x) = x + 13$; limit at 13 is 26. Require $k + 2 = 26$; $k = 24$.

02

Define $f(x) = (x^2 - 25)/(x - 5)$ for $x \neq 5$, and $f(5) = k + 4$. Find k for continuity.

For $x \neq 5$, $f(x) = x + 5$; limit at 5 is 10. Require $k + 4 = 10$; $k = 6$.

03

Define $f(x) = (x^2 - 64)/(x - 8)$ for $x \neq 8$, and $f(8) = k + 11$. Find k for continuity.

For $x \neq 8$, $f(x) = x + 8$; limit at 8 is 16. Require $k + 11 = 16$; $k = 5$.

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04

Define $f(x) = (x^2 - 100)/(x - 10)$ for $x \neq 10$, and $f(10) = k + 4$. Find k for continuity.

For $x \neq 10$, $f(x) = x + 10$; limit at 10 is 20. Require $k + 4 = 20$; $k = 16$.

05

Define $f(x) = (x^2 - 196)/(x - 14)$ for $x \neq 14$, and $f(14) = k + 7$. Find k for continuity.

For $x \neq 14$, $f(x) = x + 14$; limit at 14 is 28. Require $k + 7 = 28$; $k = 21$.

06

Define $f(x) = (x^2 - 144)/(x - 12)$ for $x \neq 12$, and $f(12) = k + 3$. Find k for continuity.

For $x \neq 12$, $f(x) = x + 12$; limit at 12 is 24. Require $k + 3 = 24$; $k = 21$.