Task card 1 One-Sided Limits & Continuity

$f(x) = -x - 1$ if $x < 1$; $f(x) = -2x + 3$ if $x \geq 1$. Find the limit of $f(x)$ as x approaches 1 from the left.

Task card 2 One-Sided Limits & Continuity

$f(x) = x - 4$ if $x < -3$; $f(x) = x + 2$ if $x \geq -3$. Find the limit of $f(x)$ as x approaches -3 from the right.

Task card 3 One-Sided Limits & Continuity

$f(x) = x + 1$ if $x \leq -1$; $f(x) = 2x + 2$ if $x > -1$. Find $\lim(x \to -1)$ of $f(x)$. If the limit does not exist, write DNE.

Task card 4 One-Sided Limits & Continuity

$f(x) = -x + 2$ if $x \leq 1$; $f(x) = 2x - 1$ if $x > 1$. Is f continuous at $x = 1$? Write yes or no.

Task card 5 One-Sided Limits & Continuity

$f(x) = x - 3$ if $x \leq 4$; $f(x) = 2x + 4$ if $x > 4$. Find the limit of $f(x)$ as x approaches 4 from the left.

Task card 6 One-Sided Limits & Continuity

$f(x) = x + 3$ if $x < -4$; $f(x) = 2x - 1$ if $x \geq -4$. Find the limit of $f(x)$ as x approaches -4 from the right.

Task card 7 One-Sided Limits & Continuity

$f(x) = x - 2$ if $x \leq -1$; $f(x) = 2x - 1$ if $x > -1$. Find $\lim(x \to -1)$ of $f(x)$. If the limit does not exist, write DNE.

Task card 8 One-Sided Limits & Continuity

$f(x) = x - 1$ if $x < 0$; $f(x) = x - 3$ if $x \geq 0$. Is f continuous at $x = 0$? Write yes or no.

Task card 9 One-Sided Limits & Continuity

$f(x) = -3x + 5$ if $x \leq -3$; $f(x) = -3x - 1$ if $x > -3$. Find the limit of $f(x)$ as x approaches -3 from the left.

Task card 10 One-Sided Limits & Continuity

$f(x) = x + 5$ if $x \leq 1$; $f(x) = -3x - 2$ if $x > 1$. Find the limit of $f(x)$ as x approaches 1 from the right.

Task card 11 One-Sided Limits & Continuity

$f(x) = 2x + 5$ if $x < -2$; $f(x) = x + 4$ if $x \geq -2$. Find $\lim(x \to -2)$ of $f(x)$. If the limit does not exist, write DNE.

Task card 12 One-Sided Limits & Continuity

$f(x) = 3x - 2$ if $x \leq 1$; $f(x) = -3x + 4$ if $x > 1$. Is f continuous at $x = 1$? Write yes or no.

Task card 13 One-Sided Limits & Continuity

$f(x) = x + 4$ if $x \leq 1$; $f(x) = x$ if $x > 1$. Find the limit of $f(x)$ as x approaches 1 from the left.

Task card 14 One-Sided Limits & Continuity

$f(x) = 2x - 2$ if $x < -4$; $f(x) = 3x - 2$ if $x \geq -4$. Find the limit of $f(x)$ as x approaches -4 from the right.

Task card 15 One-Sided Limits & Continuity

$f(x) = -2x + 2$ if $x \leq -4$; $f(x) = 3x + 3$ if $x > -4$. Find $\lim(x \to -4)$ of $f(x)$. If the limit does not exist, write DNE.

Task card 16 One-Sided Limits & Continuity

$f(x) = 2x + 4$ if $x < -3$; $f(x) = x + 1$ if $x \geq -3$. Is f continuous at $x = -3$? Write yes or no.

Task card 17 One-Sided Limits & Continuity

$f(x) = 2x - 3$ if $x < -1$; $f(x) = x^2 - 6$ if $x \geq -1$. Find $\lim(x \to -1)$ of $f(x)$. If the limit does not exist, write DNE.

Task card 18 One-Sided Limits & Continuity

$f(x) = -3x + 3$ if $x \leq 3$; $f(x) = -3x$ if $x > 3$. Is f continuous at $x = 3$? Write yes or no.

Task card 19 One-Sided Limits & Continuity

$f(x) = 5x + 18$ if $x < -2$; $f(x) = x^2 + k$ if $x \geq -2$. Find the value of k that makes f continuous at $x = -2$.

Task card 20 One-Sided Limits & Continuity

$f(x) = -2x - 6$ if $x \leq 3$; $f(x) = 2x - 2$ if $x > 3$. Find the limit of $f(x)$ as x approaches 3 from the right.

Task card 21 One-Sided Limits & Continuity

$f(x) = x^2 - 2$ if $x < 4$; $f(x) = x^2 - 4$ if $x \geq 4$. Find the limit of $f(x)$ as x approaches 4 from the left.

Task card 22 One-Sided Limits & Continuity

$f(x) = 3x - 3$ if $x \leq 1$; $f(x) = 2x - 2$ if $x > 1$. Find $\lim(x \to 1)$ of $f(x)$. If the limit does not exist, write DNE.

Task card 23 One-Sided Limits & Continuity

$f(x) = x^2 - 3$ if $x < -3$; $f(x) = 4x$ if $x \geq -3$. Find $\lim(x \to -3)$ of $f(x)$. If the limit does not exist, write DNE.

Task card 24 One-Sided Limits & Continuity

$f(x) = -3x - 1$ if $x < 5$; $f(x) = x^2 - 41$ if $x \geq 5$. Is f continuous at $x = 5$? Write yes or no.

One-Sided Limits & Continuity Task Cards

Recording sheet · Grade 12 · Answer each question. If a limit does not exist write DNE. For yes-or-no questions write yes or no.

Name: _____ Date: _____

Scan to check your answers

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

One-Sided Limits & Continuity Task Cards: Answer Key

Grade 12 · Easy

The answers online

1. -2	**2.** -1	**3.** 0
4. yes	**5.** 1	**6.** -9
7. -3	**8.** no	**9.** 14
10. -5	**11.** DNE	**12.** yes
13. 5	**14.** -14	**15.** DNE
16. yes	**17.** -5	**18.** no
19. k = 4	**20.** 4	**21.** 14
22. 0	**23.** DNE	**24.** yes