LIMITS AND CONTINUITY - PRACTICE TEST | NEW BRUNSWICK PRE-CALCULUS B 120 · UNIT E · 25 QUESTIONS

Limits and Continuity — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 The function $f(x) = \frac{1}{x}$ is continuous at $x = 3$

- A yes
- B no
- C only at 0
- D never

Understand It with Pulse | Flag a mistake

2 The function $f(x) = \frac{1}{x}$ is continuous at $x = 4$

- A no
- B yes
- C only at 0
- D never

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3 **The function $f(x) = \frac{1}{x}$ is continuous at x = 5**

- A no
- B only at 0
- C yes
- D never

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4 **Substituting x = 3 into $x^2 + 1$ gives**

ANSWER _____

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5 **The limit as x approaches 2 of 1x plus 5 is**

ANSWER _____

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6 **The limit as x approaches 2 of 2x plus 6 is**

ANSWER _____

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7 **The limit as x approaches 3 of (x^2 - 9) / (x - 3) is**

ANSWER _____

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8 **The limit as x approaches 4 of (x^2 - 16) / (x - 4) is**

ANSWER _____

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9 **The limit as x approaches 5 of (x^2 - 25) / (x - 5) is**

ANSWER _____

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10 **As x gets closer to 2, the expression 3x - 1 gets closer to**

ANSWER _____

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11 **The value approached by x^2 as x approaches -2 is**

ANSWER _____

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12 **Simplifying $(x^2 - 4)/(x - 2)$ gives x + 2 , so the limit as x approaches 2 is**

ANSWER _____

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13 **The standard limit of (sin x)/x as x approaches 0 is**

ANSWER _____

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14 As x grows without bound, $\frac{1}{x}$ approaches

ANSWER

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15 f(x) values near x = 1 are: 1.9 at 0.9, 2.1 at 1.1, and 1.99 at 0.99. The limit as x approaches 1 is most likely

ANSWER

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16 Factoring $(x^2 - 16)/(x - 4)$ and cancelling gives a limit as x approaches 4 of

ANSWER

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17 The expression $(x - 1)/(x^2 - 1)$ simplifies to $1/(x + 1)$, so its limit as x approaches 1 is

ANSWER

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18 The one sided limit of $\frac{1}{x}$ as x approaches 0 from the right is

- **A** positive infinity
- **B** negative infinity
- **C** 0
- **D** 1

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19 The limit of a constant function f(x) = 7 as x approaches 5 is

ANSWER _____

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20 If f(x) approaches 3 and g(x) approaches 4 as x approaches 1, then f(x) + g(x) approaches

ANSWER _____

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21 **The limit of (2x + 1)/(x + 1) as x grows without bound is**

ANSWER _____

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22 **A function has a jump at x = 2 : the left hand limit is 1 and the right hand limit is 3. The two sided limit at x = 2**

A exists and equals 1

B exists and equals 3

C does not exist

D exists and equals 2

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23 **Squeezing x sin($\frac{1}{x}$) between -x and x shows its limit as x approaches 0 is**

ANSWER _____

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24 **A function is continuous at x = 3 if its graph**

- **A** has a break at x = 3
- **B** can be drawn through x = 3 without lifting the pen
- **C** is a straight line
- **D** has no slope

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25 **The function f(x) = 1/(x - 2) is not continuous at x = 2 because**

- **A** it is a polynomial
- **B** it is undefined at x = 2
- **C** it is defined everywhere
- **D** its graph is a line

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ANSWER KEY

1.	A	**10.**	5	**19.**	7
2.	B	**11.**	4	**20.**	7
3.	C	**12.**	4	**21.**	2
4.	10	**13.**	1	**22.**	C
5.	7	**14.**	0	**23.**	0
6.	10	**15.**	2	**24.**	B
7.	6	**16.**	8	**25.**	B
8.	8	**17.**	0.5		
9.	10	**18.**	A		

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