Calculus Practice: Limits that Do not Exist 1a

Evaluate each limit.

1) $\lim\limits_{x \to 1} \dfrac{|x-1|}{x-1}$

A) -5 B) 3
C) -8 D) Does not exist.

2) $\lim\limits_{x \to -3} \dfrac{-5x-15}{|-x-3|}$

A) -4 B) Does not exist.
C) -5 D) 0

3) $\lim\limits_{x \to 2} f(x),\ f(x) = \begin{cases} -2x, & x \le 2 \\ x, & x > 2 \end{cases}$

A) -6 B) -8
C) Does not exist. D) 3

4) $\lim\limits_{x \to 3} f(x),\ f(x) = \begin{cases} \dfrac{x}{2} - \dfrac{3}{2}, & x \le 3 \\ -\dfrac{x}{2} - \dfrac{1}{2}, & x > 3 \end{cases}$

A) Does not exist. B) -8
C) -4 D) 4

5) $\lim\limits_{x \to 1} \dfrac{e^{\frac{1}{x-1}}}{e^{\frac{1}{x-1}} + 1}$

A) 3 B) Does not exist.
C) -9 D) 8

6) $\lim\limits_{x \to 2} \dfrac{x-3}{x^2 - 5x + 6}$

A) $-\infty$ B) -2
C) Does not exist. D) ∞

7) $\lim\limits_{x \to -3} -\dfrac{x-1}{x^2 + 2x - 3}$

A) $-\infty$ B) Does not exist.
C) ∞ D) -4

8) $\lim\limits_{x \to -\frac{\pi}{2}} 2\cot(2x)$

A) ∞ B) -4
C) Does not exist. D) $-\infty$

9) $\lim\limits_{x \to -\frac{\pi}{2}} 2\tan(x)$

A) $-\infty$ B) 10
C) ∞ D) Does not exist.

10) $\lim\limits_{x \to \pi} \csc(2x)$

A) Does not exist. B) $-\infty$
C) 6 D) ∞

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