
1. $\lim_{x \rightarrow \infty} \frac{5x^2 - 3x + 1}{4x^2 + 2x + 5} =$

- a) 0 b) $\frac{4}{5}$ c) $\frac{3}{11}$ d) $\frac{5}{4}$ e) ∞
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2. If the function f is continuous for all real numbers and if $f(x) = \frac{x^2 - 7x + 12}{x - 4}$ when $x \neq 4$, then $f(4) =$

- a) 1 b) $\frac{8}{7}$ cc) -1 d) 0 e) undefined
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3. The domain of the function $f(x) = \sqrt{4 - x^2}$ is

- a) $x < -2$ or $x > 2$ b) $x \leq -2$ or $x \geq 2$ c) $-2 < x < 2$
d) $-2 \leq x \leq 2$ e) $x \leq 2$
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4. $\lim_{x \rightarrow 5} \frac{x^2 - 25}{x - 5} =$

- a) 0 b) 10 c) -10 d) 5 e) does not exist
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5. Find k so that $f(x) = \begin{cases} \frac{x^2 - 16}{x - 4}; & x \neq 4 \\ k & ; x = 4 \end{cases}$ is continuous for all x .

- a) All real values of k make $f(x)$ continuous for all x .
b) 0
c) 16
d) 8
e) There is no real value of k that makes $f(x)$ continuous for all x .
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6. If $f(x) = \frac{x^2 + 5x - 24}{x^2 + 10x + 16}$, then $\lim_{x \rightarrow -8} f(x)$ is

- a) 0 b) 1 c) $-\frac{3}{2}$ d) $\frac{11}{6}$ e) Nonexistent

7. Find the limit: $\lim_{x \rightarrow -3} (-2x^2 + 1)$

- a) 37 b) 19 c) -17 d) $\pm\sqrt{2}$ e) None of these
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8. Find the limit: $\lim_{x \rightarrow 1} \left(2 - \frac{5}{(x-1)^2} \right)$

- a) $-\infty$ b) ∞ c) -3 d) 2 e) None of these
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9. Find the limit: $\lim_{x \rightarrow -1} \frac{x^2 + 2x + 3}{x^2 + 1}$

- a) 0 b) 1 c) ∞ d) DNE e) None of these
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10. Find the limit: $\lim_{x \rightarrow 1^+} \frac{5}{(x-1)^2}$

- a) 0 b) $-\infty$ c) $\frac{5}{4}$ d) ∞ e) None of these
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11. Find the limit: $\lim_{x \rightarrow -1} \frac{x^2 - 5x - 6}{x + 1}$

- a) 0 b) -7 c) $-\infty$ d) ∞ e) None of these
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12. Find the limit: $\lim_{x \rightarrow 0} \frac{\sqrt{x+9} - 3}{x}$

- a) 0 b) 1 c) ∞ d) $\frac{1}{3}$ e) None of these
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13. Find the limit: $\lim_{x \rightarrow 2} \frac{x-2}{|x-2|}$

- a) 0 b) 1 c) 2 d) DNE e) None of these