

LIMIT REVIEW PROBLEMS

1. $\lim_{h \rightarrow 0} \frac{\sqrt{1+h}-1}{h}$
2. $\lim_{x \rightarrow 0} \frac{\sqrt{2+x}-\sqrt{2}}{x}$
3. $\lim_{t \rightarrow 2} \frac{\sqrt{t+2}-\sqrt{6-t}}{t^2-4}$
4. $\lim_{x \rightarrow 0} \frac{\sqrt{1+x^2}-1}{x^4+x^2}$
5. $\lim_{t \rightarrow 5} \frac{t^2-4t-5}{\sqrt{2+t}-\sqrt{12-t}}$
6. $\lim_{x \rightarrow -\frac{1}{2}} \frac{2x+1}{\sqrt{2+x}-\sqrt{1-x}}$
7. $\lim_{x \rightarrow 1} \frac{1-\sqrt{x}}{1-x}$
8. $\lim_{x \rightarrow 1} \frac{\sqrt{8+x}-\sqrt{10-x}}{x^3-1}$
9. $\lim_{x \rightarrow 0} \frac{x^3+x}{\sqrt{5+x^2}-\sqrt{5-x}}$
10. $\lim_{x \rightarrow -\frac{1}{3}} \frac{3x^2-14x-5}{6x^2+5x+1}$
11. $\lim_{x \rightarrow 1} \frac{x^4-1}{x^3-1}$
12. $\lim_{x \rightarrow 1} \frac{x^6-1}{x^4-1}$
13. $\lim_{x \rightarrow 2} \frac{x^2-4x+4}{x^3+5x^2-14x}$
14. $\lim_{x \rightarrow 0} \frac{x^3+5x^2-14x}{x^2-4x+4}$
15. $\lim_{x \rightarrow 0} \frac{(2+x)^3-8}{x}$
16. $\lim_{x \rightarrow 0} \frac{x^2+x}{x^5+2x^4+x^3}$
17. $\lim_{x \rightarrow -1} \frac{x^2+x}{x^5+2x^4+x^3}$
18. $\lim_{x \rightarrow a} \frac{x^2-a^2}{x^4-a^4}$
19. $\lim_{x \rightarrow 0} \frac{\frac{1}{2+x}-\frac{1}{2}}{x}$
20. $\lim_{x \rightarrow 0} \frac{\sin(3x)}{x}$
21. $\lim_{x \rightarrow 0} \frac{\tan(4x)}{3x}$
22. $\lim_{x \rightarrow 0} \frac{\sin(3x)}{\sin(8x)}$
23. $\lim_{x \rightarrow 0} \frac{\tan(2x)}{3x+\sin(x)}$
24. $\lim_{x \rightarrow 0} \frac{\sin(3x)+\tan(6x)}{\sin(8x)-\tan(5x)}$
25. $\lim_{x \rightarrow 0} \frac{\cos(3x)}{\cos(8x)}$
26. $\lim_{x \rightarrow 1} \frac{\tan(2x)}{3x}$
27. $\lim_{x \rightarrow 1} \frac{\sin(x-1)}{x^2-1}$
28. $\lim_{x \rightarrow 2} \frac{\sqrt{2}-\sqrt{x}}{\sin(x-2)}$
29. $\lim_{x \rightarrow 3} \frac{\sin(\sqrt{2x}-\sqrt{6})}{x^2-4x+3}$
30. $\lim_{x \rightarrow 1} \frac{\sin(\sqrt{x+3}-2)}{\tan(\sqrt{x^2+5x+3}-3)}$
31. $\lim_{x \rightarrow -2+} \frac{1}{x^2-4}$
32. $\lim_{x \rightarrow -2-} \frac{1}{x^2-4}$
33. $\lim_{x \rightarrow 1+} \frac{x}{x^2-1}$
34. $\lim_{x \rightarrow 1-} \frac{x}{x^2-1}$
35. $\lim_{x \rightarrow 0+} \left(\frac{x^2}{2} - \frac{1}{x}\right)$
36. $\lim_{x \rightarrow 0-} \left(\frac{x^2}{2} - \frac{1}{x}\right)$
37. $\lim_{x \rightarrow 0+} \frac{x^2-3x+2}{x^3-2x^2}$
38. $\lim_{x \rightarrow 2+} \frac{x^2-3x+2}{x^3-2x^2}$
39. $\lim_{x \rightarrow 2-} \frac{x^2-3x+2}{x^3-2x^2}$
40. $\lim_{x \rightarrow -3+} \frac{|x+3|}{x+3}$
41. $\lim_{x \rightarrow -3-} \frac{|x+3|}{x+3}$
42. $\lim_{x \rightarrow -2+} \frac{x^2+7x+10}{|x+2|}$
43. $\lim_{x \rightarrow -2-} \frac{x^2+7x+10}{|x+2|}$
44. $\lim_{x \rightarrow 1-} \frac{\sqrt{2x}|1-x|}{x^2-1}$
45. $\lim_{x \rightarrow -1-} \frac{x^2+3x+2}{|x^2-x-2|}$