

WS: 7.1 Limits

MATH ANALYSIS

revlim2

Find each limit. Must show work!

1. $\lim_{x \rightarrow 2} x^2$

2. $\lim_{x \rightarrow 1} (x^2 + 4x + 3)$

3. $\lim_{x \rightarrow 1} \frac{x+1}{x+2}$

4. $\lim_{n \rightarrow 0} \left(5^n + \frac{1}{5^n} \right)$

5. $\lim_{x \rightarrow 5} (3x - 8)$

6. $\lim_{x \rightarrow 3} \frac{x^2 - 9}{x + 3}$

7. $\lim_{x \rightarrow 3} \frac{x^2 - 9}{x - 3}$

8. $\lim_{x \rightarrow 3} \frac{x^2 - 9}{x + 3}$

9. $\lim_{x \rightarrow 2} \frac{x^2 - 4}{x^3 - 8}$

10. $\lim_{x \rightarrow 3} \frac{x - 3}{x^2 - 9}$

11. $\lim_{x \rightarrow 2} (x^4 - x^2 + x - 2)$

12. $\lim_{x \rightarrow 2} \frac{x^3 - 8}{x - 2}$

13. $\lim_{x \rightarrow -1} \frac{x^3 + 1}{x + 1}$

14. $\lim_{x \rightarrow 2} \frac{x^3 - 8}{x - 2}$

15. $\lim_{x \rightarrow 2} \frac{x^2 - x - 2}{x^2 - 4}$

16. $\lim_{x \rightarrow \infty} \frac{x + 1}{x}$

17. $\lim_{x \rightarrow \infty} \frac{2x - 5}{x}$

18. $\lim_{x \rightarrow \infty} \frac{x^2 + x - 6}{x^2}$

19. $\lim_{n \rightarrow 0} \frac{(1+n)^2 - 1}{n}$

20. $\lim_{x \rightarrow \infty} \frac{\sqrt{x+4} - 2}{x}$

21. $\lim_{n \rightarrow \infty} \frac{(n-2)(n-1)}{n}$

ANSWERS

1. 4

2. 8

3. $\frac{2}{3}$

4. 2

5. 7

6. 0

7. 6

8. -6

9. $\frac{1}{3}$

10. $\frac{1}{6}$

11. 8

12. 12

13. 3

14. 4

15. $\frac{3}{4}$

16. 1

17. 2

18. 1

19. 2

20. 0

21. ∞