

Extra Limit Proofs

Directions: Do the proofs. Do them correctly.

1. $\lim_{x \rightarrow 2} 3x + 1 = 7$

2. $\lim_{x \rightarrow -1} -5x - 4 = 1$

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

4. $\lim_{x \rightarrow 3} x^2 - 5 = 4$

5. $\lim_{x \rightarrow 2} x^3 + 3x^2 - 4x = 12$

6. $\lim_{x \rightarrow -2} x^3 - 4 = -12$

7. $\lim_{x \rightarrow \infty} \frac{2x+3}{x} = 2$

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

9. $\lim_{x \rightarrow \infty} \frac{3x-7}{5x^2+4x+1} = 0$

10. $\lim_{x \rightarrow 4^-} \frac{2x}{x-4} = -\infty$

11. $\lim_{x \rightarrow 2^+} \frac{2}{5x^2-20} = \infty$

12. $\lim_{x \rightarrow 0^-} \frac{2x+1}{x^2} = \infty$

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

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

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