Limits 3: To Infinity and Beyond

Numberbender | WORKSHEET

Name: _____ Date: _____ Score: _____

Evaluate each limit at infinity. Show all work.

LIMITS WORKSHEET #3

TO INFINITY AND BEYOND !!!!!

1. $\lim_{x\to\infty} 5-\frac{2}{x^2}$	2. $\lim_{x\to-\infty} \frac{3x+7}{5x}$	3. $\lim_{x\to\infty} \frac{2x-1}{x+1}$	4. $\lim_{x\to\infty} \frac{2x+5}{3x^2+1}$
5. $\lim_{x\to\infty} \frac{2x^2+5}{3x^2+1}$	6. $\lim_{x\to\infty} \frac{2x^3+5}{3x^2+1}$	7. $\lim_{x\to\infty} \frac{2x^2-4x}{x+1}$	8. $\lim_{x\to-\infty} \frac{2x^2-4x}{x+1}$
9. $\lim_{x\to\infty} \frac{x^2+2}{x^3-1}$	10. $\lim_{x\to\infty} \frac{x^2+2}{x^2-1}$	11. $\lim_{x\to\infty} \frac{x^2+2}{x-1}$	12. $\lim_{x\to\infty} \frac{3-2x}{3x^3-1}$
13. $\lim_{x\to\infty} \frac{3-2x}{3x-1}$	14. $\lim_{x\to\infty} \frac{3-2x^2}{3x-1}$	15. $\lim_{x\to\infty} \frac{2x-1}{3x+2}$	16. $\lim_{x\to\infty} \frac{3x^3+2}{2x^2-9x^3+7}$
17. $\lim_{x\to\infty} \frac{x}{x^2-1}$	18. $\lim_{x\to-\infty} \frac{4x^2+3}{2x^2-1}$	19. $\lim_{x\to\infty} 10-\frac{2}{x^2}$	20. $\lim_{x\to\infty} 4+\frac{3}{x}$
21. $\lim_{x\to-\infty} \frac{5x^2}{x+3}$	22. $\lim_{x\to-\infty} \frac{1}{2}x-\frac{4}{x^2}$		

Answer key — for instructor use only.

Answers:

1) 5	2) $\frac{3}{5}$	3) 2	4) 0	5) $\frac{2}{3}$	6) ∞
7) ∞	8) $-\infty$	9) 0	10) 1	11) ∞	12) 0
13) $-\frac{2}{3}$	14) ∞	15) $\frac{2}{3}$	16) $\frac{-1}{3}$	17) 0	18) 2