Name _____ Date _____

Limits BINGO

$-\dfrac{1}{9}$	12	3	5	1
7	$\dfrac{9}{2}$	0	2	DNE (∞)
DNE (not defined from left)	$-\dfrac{3}{2}$	FREE	-2	4
DNE	6	-4	$-\dfrac{1}{4}$	10
$\dfrac{11}{2}$	DNE($-\infty$)	-1	-5	DNE (left limit $\neq$ right limit)

Find each limit. Then locate your answer on the BINGO board and circle it (also write the problem number in the square). Work problems in any order until you have circled 5 answers in a row – horizontally, vertically, or diagonally. Then shout **BINGO**!

1. $\displaystyle\lim_{x\to3}\frac{x^2-9}{x-3}$

2. $\displaystyle\lim_{x\to3}\frac{x^2-x-6}{x-3}$

3. $\displaystyle\lim_{x\to4}\frac{x-4}{\sqrt{x}-2}$

4. $\displaystyle\lim_{x\to3}7$

5. $\displaystyle\lim_{x\to\frac{1}{2}}\frac{6x^2+5x-4}{2x-1}$

6. $\displaystyle\lim_{x\to-1}\left(\sqrt[3]{x}-\frac{2}{\sqrt[3]{x}}\right)^5$

7. $\displaystyle\lim_{x\to2}\frac{x-2}{\dfrac{1}{x}-\dfrac{1}{2}}$

8. $\displaystyle\lim_{x\to2}\frac{x^3-8}{x-2}$

9. $\displaystyle\lim_{x\to\frac{1}{2}}\frac{5x+2}{2x}$

10. $\displaystyle\lim_{h\to0}\frac{2-\sqrt{4+h}}{h}$

11. $\displaystyle\lim_{h\to0}\frac{(5+h)^2-25}{h}$

12. $\displaystyle\lim_{x\to4^-}\frac{|x-4|}{x-4}$

13. $\displaystyle\lim_{x\to4}\frac{|x-4|}{x-4}$

14. $\displaystyle\lim_{x\to4^+}\sqrt{x-4}-5$

15. $\displaystyle\lim_{x\to4^-}\sqrt{x-4}$

16. $\displaystyle\lim_{x\to\infty}\frac{15x^2-2x+3}{5x^2-7}$

17. $\displaystyle\lim_{x\to\infty}\frac{\sqrt{4x^2+5}}{x-3}$

18. $\displaystyle\lim_{x\to-\infty}\frac{\sqrt{4x^2+5}}{x-3}$

19. $\displaystyle\lim_{x\to4^+}\frac{1}{x-4}$

20. $\displaystyle\lim_{x\to4^-}\frac{1}{x-4}$

21. $\displaystyle\lim_{h\to0}\frac{(3+h)^{-1}-3^{-1}}{h}$

22. $\displaystyle\lim_{x\to-\infty}\frac{4-3x^3}{2x^3+3x-1}$

23. $\displaystyle\lim_{x\to\infty}\frac{10-3x}{(2x+1)^3}$

24. $\displaystyle\lim_{x\to\infty}\tan x$