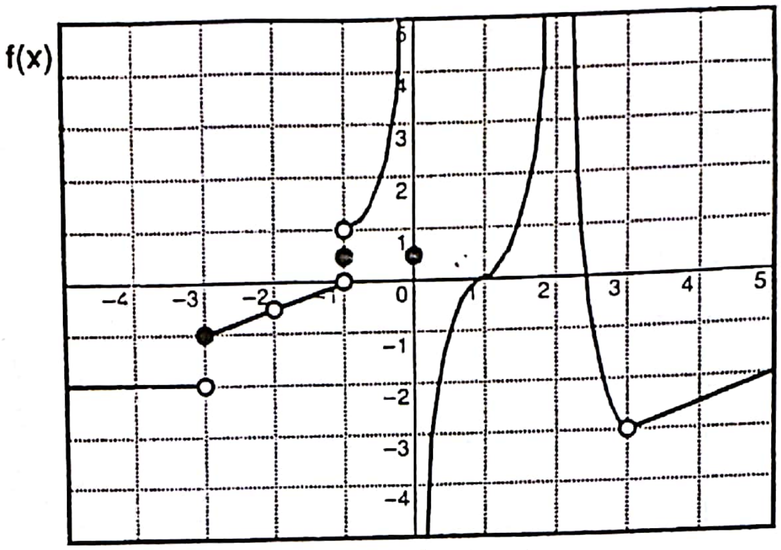
Key

WHAT DID THE ASYMPTOTE SAY TO THE REMOVABLE DISCONTINUITY?



Complete the table below for f(x).

a	−3	−2	−1	0	1	2	3
f(a)	1) −1	5) DNE	9) 0.5	13) 0.5	17) 0	21) DNE	25) DNE
$\lim_{x \to a^-} f(x)$	2) −2	6) −0.5	10) 0	14) ∞	18) 0	22) ∞	26) −3
$\lim_{x \to a^+} f(x)$	3) −1	7) −0.5	11) 1	15) −∞	19) 0	23) ∞	27) −3
$\lim_{x \to a} f(x)$	4) DNE	8) −0.5	12) DNE	16) DNE	20) 0	24) ∞	28) −3

29) Give the **right hand limit** as x approaches −5? −2

30) Give the **left hand limit** as x approaches 5? −2

31) For what integer value in the above table is f(x) continuous? 1

32) f(x) has a removable discontinuity (hole) when the x value is 3 and when the x value is (?). −2

33) f(x) is not defined at the vertical asymptote **x = (?)**. 2

34) On the open interval (−5, 5), f(x) has **(?)** discontinuities. 6

A.	−3
D.	0.5
E.	−0.5
H.	0
I.	1
L.	−1
M.	6
N.	−2
R.	2
O.	∞
T.	none
U.	−∞

D	O	N	'	T
9	22	32		4

H	A	N	D
17	27	2	13

T	H	A	T
25	10	28	16

H	O	L	I	E	R
19	23	1	31	6	33

T	H	A	N
5	18	26	29

T	H	O	U
12	20	24	15

L	I	N	E
3	11	30	8

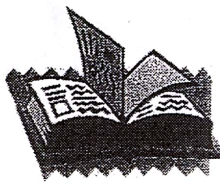
T	O
21	14

M	E
34	7

Sammit

What did one math book say to the other?

A DON'	B T	C BO	D TH	E ER
F ME	G ___	H I	I VE	J GOT
K MY	L OWN	M PRO	N BL	O EMS



Math Book WS:

A) $\lim_{x\to 4^-} x-\sqrt{16-x^2}$

$4-\sqrt{16-4^2}=4$

D) $\lim_{x\to 5} \frac{x^3-125}{x-5}$

$\frac{(x-5)(x^2+5x+25)}{(x-5)}$

$5^2+5(5)+25=75$

N) $\lim_{x\to 9} \frac{x-9}{\sqrt{x}-3}\cdot\frac{\sqrt{x}+3}{\sqrt{x}+3}$

$\frac{(x-9)(\sqrt{x}+3)}{(x-9)}$

$\lim_{x\to 9} \sqrt{x}+3=6$

G) $\lim_{x\to 3} \frac{x^3-x^2-5x-3}{x-3}$

$\frac{(x-3)(x^2+2x+1)}{(x-3)}=16$

3 | 1 −1 −5 −3

3 6 3

1 2 1 0

J) $\lim_{x\to 4} \left(\frac{\frac{1}{x}-\frac{1}{4}}{x-4}\right)\frac{4x}{4x}$

$\frac{4-x}{4x(x-4)}=\frac{-(x-4)}{4x(x-4)}$

$=\frac{-1}{4x}$

$\lim_{x\to 4} \frac{-1}{4x}=\frac{-1}{16}$

F) $\lim_{x\to\infty} \frac{5x^2-3x+1}{2-3x^2}=-\frac{5}{3}$

M) $\lim_{x\to 2} \frac{1}{(x-2)^2}=\infty$

$x=2$ is a VA

B) $\lim_{x\to \frac{1}{2}^-} \frac{1}{2x-1}=-\infty$

$x=\frac{1}{2}$ is a VA

L) $\lim_{x\to -\infty} \frac{6x}{\sqrt{9x^2+1}}=-2$

$\frac{-6x}{3\cdot x}=\frac{-6}{3}=-2$

E) $\lim_{x\to 2^+} \frac{|x-2|}{x-2}=1$

H) $\lim_{x\to 6} \sqrt{36-x^2}=$ DNE (not defined from right)

$\lim_{x\to 6^-} \sqrt{36-x^2}=0$

$\lim_{x\to 6^+} \sqrt{36-x^2}=$ DNE

O) $\lim_{x\to\infty} \frac{5x}{2-3x^2}=0$

K) $\lim_{h\to 0} \frac{8(x+h)-8x}{h}=8$

$\frac{8x+8h-8x}{h}=\frac{8h}{h}=8$

C) $\lim_{x\to -2} x^3-3x+9=$

$-8+6+9=7$

I) $\lim_{x\to 5} [\![x]\!]=$ DNE

$R\neq L$