

Sec 2.2 page 102 (1-4, 6, 7, 12, 13-15, 17, 21, 22, 28)

①) As $f(x)$ approaches the x value of 2, the graph of $f(x)$ approaches 5 from both sides of $x=2$.

b) yes, a graph can approach 5 from both sides but have removable discontinuity at $x=2$ with a value of $(2, 3)$.

②) As $f(x)$ approaches $x=1$ from the left, $f(x)$ approaches 3.

As $f(x)$ approaches $x=1$ from the right, $f(x)$ approaches 7.

b) no, left and right side limits do not approach the same y value.

③) a) 2 b) 3 c) DNE d) 4 e) DNE

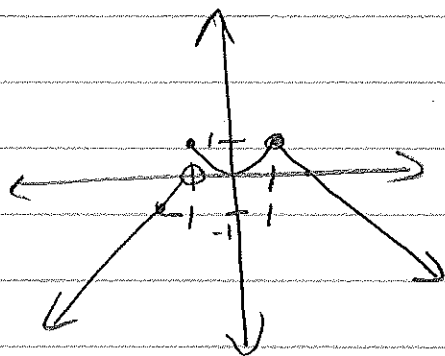
④) a) 3 b) 4 c) 2 d) DNE e) 3

⑤) a) 4 b) 4 c) 4 d) DNE e) 1

f) -1 g) DNE h) $h(0)=1$ i) 2 j) DNE

k) 3 l) DNE

(7)



$$a = -1$$

$$\lim_{a \rightarrow -1} f(x) = \text{DNE}$$

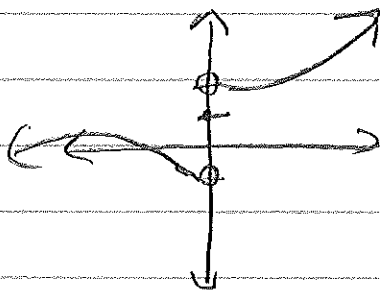
$$a \rightarrow -1$$

(12)

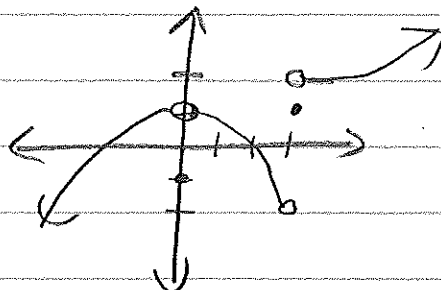
150mg, 300mg

left side is the amount of drug just before injection and right side shows the amount of drug right after injection

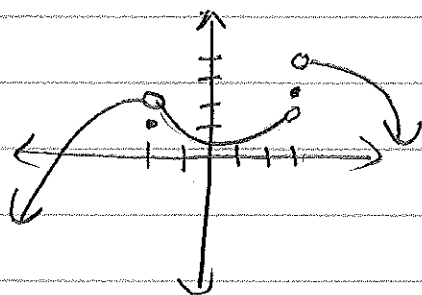
(13)



(14)



(15)



(17)

appears to approach $\frac{2}{3}$

(21)

x	f(x)	x	f(x)
1	.236068	-1	.267949
0.5	.242641	-0.5	.258343
0.1	.248457	-0.1	.251582
0.05	.249224	-0.05	.250786
0.01	.249844	-0.01	.250156

appears to be $\frac{1}{4}$

22

X	S(X)
$\pm .2$.439279
$\pm .1$.506236
$\pm .05$.591893
$\pm .01$.599680
$\pm .001$.599997

appears to approach $\frac{3}{5} = .6$

28 $y = 2^x$ $P(0,1)$ $Q(x, 2^x)$

X	M_{pq}
0.1	.71773
0.01	.69556
0.001	.69339
0.0001	.69317

appears to approach
 $\approx .693$