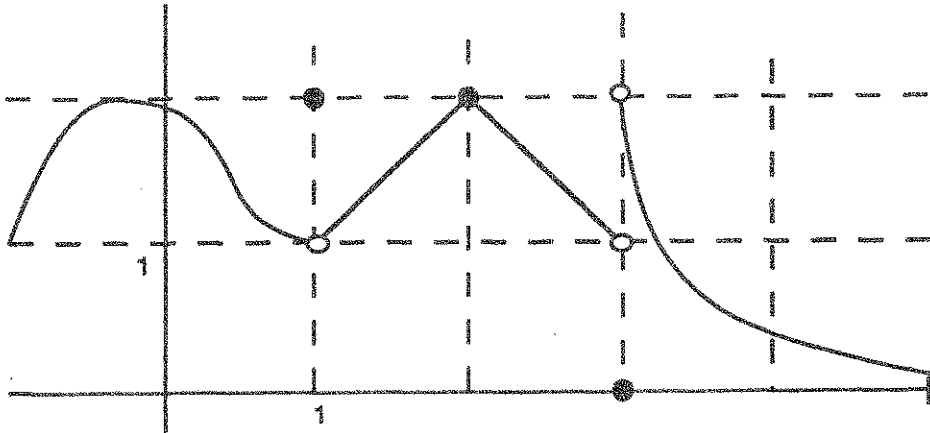


*attended 30mi
not dept at 13
median time 17mi
all but 5 by 20mi
all done by 24*



11all

1. For the function f with graph given above, find:

a. $f(3) = 0$

b. $f(2) = 2$

c. $\lim_{x \rightarrow 1} f(x) = 1$

d. $\lim_{x \rightarrow 2} f(x) = 2$

d. $\lim_{x \rightarrow 3^-} f(x) = 1$

e. $\lim_{x \rightarrow 3^+} f(x) = 2$

f. For what values of x is f discontinuous? $x = 1, 3$

2. Find the following limits algebraically (show work):

$$\lim_{x \rightarrow 4} \frac{x^2 - 16}{x - 4} = \lim_{x \rightarrow 4} \frac{(x-4)(x+4)}{x-4} = \lim_{x \rightarrow 4} (x+4) = 4+4 = 8$$

23

too easy

3. ¹⁵ If the function f continuous at $x = 2$? Why?

$$f(x) = \begin{cases} x^2, & x > 2 \\ x + 1, & x \leq 2 \end{cases}$$

$$\lim_{x \rightarrow 2^-} f(x) = \lim_{x \rightarrow 2^-} (x+1) = 3$$

R

Sudatin

$$\lim_{x \rightarrow 2^+} f(x) = \lim_{x \rightarrow 2^+} x^2 = 4$$

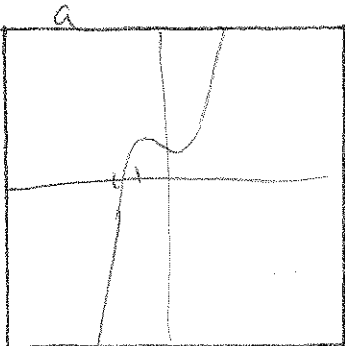
no limit

4. Let $y = x^3 - x + 2$.

a. Draw a complete graph

b. How do we know there is a root between -1 and -2?

c. Graphically approximate the root to 4 decimal places.



2 $f(-1) > 0$ $f(-2) < 0$
 \therefore cont so $f(x) = 0$ home @ $-2 < x < -1$

3 c. -1.5214