30 total

attend 25 min
first left @ 11 min
started to leave @ 11
6 left by 15:00
1/2 left @ 20:00
4 left @ 25:00

MATH 131
Quiz I
January 25, 1991

Name Key

If limits do not exist, say so.

18 1. For the function: 3 got all

$$f(x) = \begin{cases} x & , x < 0 \\ x^2 + 2 & , 0 < x < 2 \\ 4 & , x = 2 \\ x+4 & , x > 2 \end{cases}$$

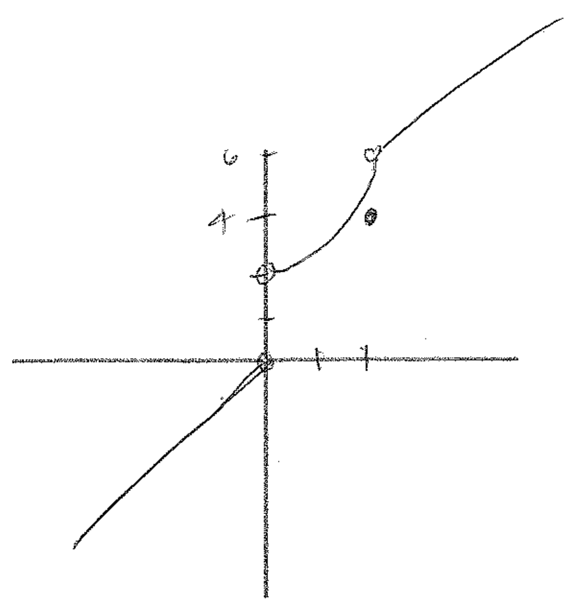
2 a. $f(1) = 1^2 + 1 = 3$ 2 b. $f(2) =$ 4

3 c. $\lim_{x \to 2} f(x) =$ 6

3 d. $\lim_{x \to 4} f(x) =$ 8

2 e. $\lim_{x \to 0} f(x) =$ DNE

8 f. Sketch the graph:

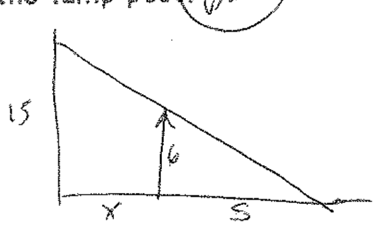


6 2. Find the following limit (show work!): all but 2

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

$$= (-4-4) = -8$$

6 3. A 6 foot tall man is walking away from street light which is on top of a 15foot post. Write the length of his shadow as a function of his distance from the lamp post. (base)



$$\frac{s+x}{15} = \frac{s}{6}$$

$$6s + 6x = 15s$$

$$6x = 9s$$

$$\boxed{s = \tfrac{2}{3}x}$$

$x \geq 0$

3 got all
7 more missing domain
4 used s+x