Section 2.2 Hw

4. a: $\lim_{x \to 2^-} f(x) = 3$

b. $\lim_{x \to 2^+} f(x) = 1$

c. $\lim_{x \to 2} f(x) =$ DNE because $\lim_{x \to 2^-} \neq \lim_{x \to 2^+}$

d. $f(2)$ is undefined because $\lim_{x \to 2} f(x) =$ DNE

e. $\lim_{x \to 4} f(x) = 4$

f. $f(4)$ is undefined because f is not defined at 4.

5. a. $\lim_{x \to 1} f(x) = 2$

b. DNE because it does not converge to a single y value

c. DNE for same reason as b

d. DNE because it does not converge to single y value.

e. $f(3) = 3$ (I think?)

6. a. 4 b. 4 c. 4 d. undefined

e. 1 f. -1 g. DNE h. 1

i. 2 j. undefined k. 4? l. 4?

7. a. 4 b. 7 c. DNE d. does not converge

e. 0 ~~does not converge~~ f. 2 ~~does not converge~~ g. 1?

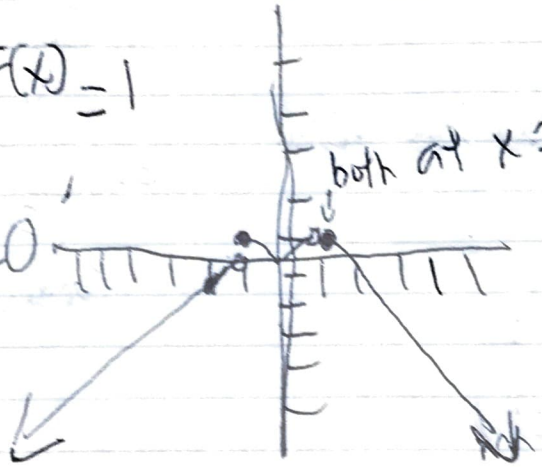
h. 3

8. a. $-\infty$ b. ∞ c. $-\infty$

d. ∞ e. $x=-3$, $x=2$, $x=5$

11. $\lim_{x\to -1^+} f(x) = 1$

$\lim_{x\to -1^-} f(x) = 0$



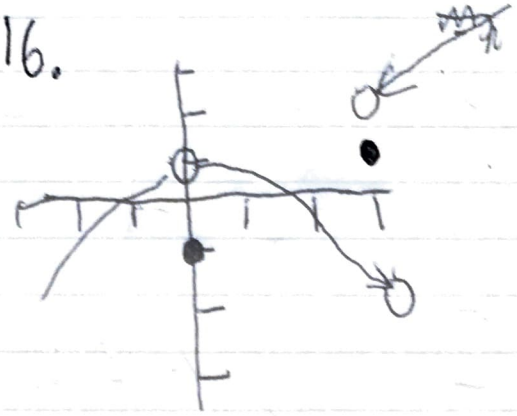
$\lim_{x\to 1^+} f(x) = 1$

$\lim_{x\to 1^-} f(x) = 1$

$\lim_{x\to 1} f(x) = 1$

15.

16.



17.