20 minutes

Quiz 2

Fall 2017 **Name:** _____

Math 0220 **TA's name:** _____

No calculators, no notes, no books. Show all your work (no work = no credit). Write neatly.

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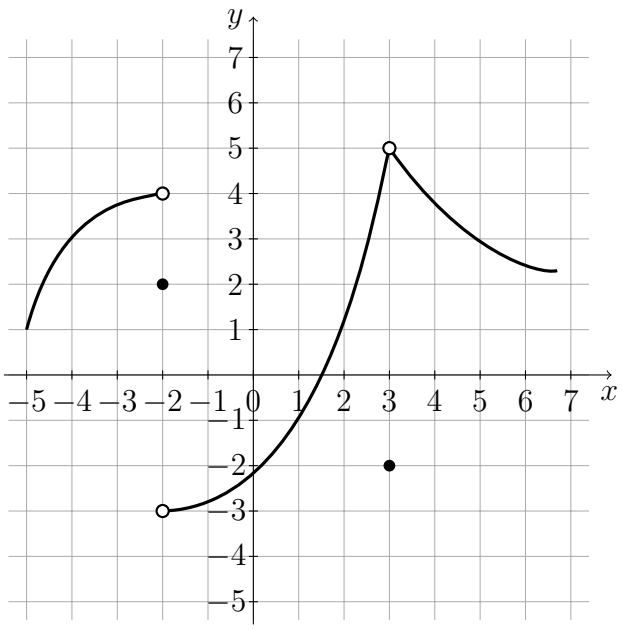
1. (6 points) For the function f whose graph is given, state the value of each equity, if it exists. If it does not exist, explain why.



(a) $\lim_{x \to -2^-} f(x)$

(b) $\lim_{x \to -2^+} f(x)$

(c) $\lim_{x \to -2} f(x)$

(d) $f(-2)$

(e) $\lim_{x \to 3} f(x)$

(f) $f(3)$

2. (4 points) Evaluate the limit, if it exists $\lim_{x \to 0} \dfrac{\sqrt{4+x}-2}{x}$

3. (5 points) Explain why the function $f(x) = \begin{cases} \dfrac{x+2}{|x+2|} & \text{if } x \neq -2 \\ -1 & \text{if } x = -2 \end{cases}$

is discontinuous at $x = -2$. Is the discontinuity removable? State the reason why.

bonus problem (5 points extra) Is there a number that exactly 1 more than its cube?