QUIZ 3 - MATH 112 Friday, January 31

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Compute the limit

$$\lim_{x\to 3}\left(\frac{2x-6}{5-\sqrt{7x+4}}\right) =$$

2. Let $f(x) = \begin{cases} \dfrac{x^2-3x-4}{x^2-2x-3}, & \text{if } x < -1 \\ \sqrt{x+5}, & \text{if } x \geq -1 \end{cases}$. Find the following:

   (a) $f(-1) =$

   (b) $\lim\limits_{x\to -1^-} f(x) =$

   (c) $\lim\limits_{x\to -1^+} f(x) =$

   (d) Circle the statement(s) below (if any) that are true:

   f is left continuous at -1 f is right continuous at -1 f is continuous at -1