MATH 2250 - Royal Homework Name _____
Sections 2.1, 2.2, 2.4
Remember to always show all supporting work.

1. (3 points) (See WeBWorK 2.1 # 3) Use the method in Example 3 on p. 54 of your textbook to find the slope of the curve at the given point P and an equation of the tangent line at P.
$$y = x^2 - 6x - 7, \quad P(2, -15)$$

2. (3 points) (See WeBWorK 2.2 #15) Determine $\lim_{x \to -1} \dfrac{\sqrt{x^2 + 15} - 4}{x + 1}$.

3. (3 points) (See WeBWorK 2.4 # 12) Determine $\lim_{x \to 0} \dfrac{7x \csc(2x)}{\cos(5x)}$.

4. (1 point) What are your thoughts on the course so far? Is it different from what you expected? How do you feel about your understanding of Sections 2.1, 2.2, and 2.4?