

Math 121**Quiz 7**

Justify all answers with neat and organized work. Clearly indicate your answers.
10 points possible.

1. (2 pts.) Write an equation of the line through the given point parallel to the given line.

$$(5, 7) \quad 8x - 2y = 3$$

2. (2 pts.) Let

$$f(x) = \begin{cases} 2x + 5, & x < 0 \\ 2x + 6, & x \geq 0. \end{cases}$$

Evaluate $f(-1)$. (Clearly put a box around your final answer.)

3. (2 pts.) A company produces a product for which the variable cost is \$13.20 per unit and the fixed costs are \$78,000. The product sells for \$18.98. Let x be the number of units produced and sold.

Write the total cost C as a function of the number of units produced.

4. (2 pts.) Let $f(x) = x^2 + 1$ and $g(x) = x - 7$. Evaluate

$$\left(\frac{f}{g}\right)(-1) - g(3).$$

5. (2 pts.) Let $f(x) = \sqrt{x+4}$ and $g(x) = x^2$. Find $f \circ g$.