Math 160   Quiz 5   Name: _____

July 16, 2002

This quiz is worth 10 points. Show all work for credit.

1. (2 points) Give the equation of a line perpendicular to the line $y = 4x - 6$ and passes through the point $(4, 2)$.

2. (4 points) The cost of gas in Bozeman is $\$1.59^9$ per gallon. Gas in Livingston is $\$1.49^9$ per gallon. It is 26.41mi between Bozeman and Livingston. Your car gets 22 miles per gallon, and your tank holds 16 gallons. Which is cheaper, getting gas in Livingston or Bozeman? Justify your answer for credit. (Hint: Assume that your tank is empty when you get to Livingston.)

3. (4 points) Let $\psi(.23) = 1.74$, $\psi(.25) = 1.89$, $\psi(.27) = 1.94$, and $\psi(.29) = 2.04$.

    (a) Estimate $\psi(.264)$.

    (b) Estimate x in $\psi(x) = 1.77$

4. (Bonus 2 points) Give an equations that expresses a proportional relation.