Name_____ No Calculators. Present neatly. Score_____.

1.

A boat leaves a dock at 2:00 PM and travels due south at a
speed of 20 km/h. Another boat has been heading due east at
15 km/h and reaches the same dock at 3:00 PM. At what time
were the two boats closest together?

2. Discuss completely. Your analysis should conclude with a sketch that is consistent with your discussion.

$$y = \frac{1}{x^2 - 9}$$

Your work:

Name_____ No Calculators. Present neatly. Score_____.

1.

A cylindrical can without a top is made to contain $V \, \text{cm}^3$ of liquid. Find the dimensions that will minimize the cost of the metal to make the can.

2. Discuss completely. Your analysis should conclude with a sketch that is consistent with your discussion.

$$y = \frac{x^2}{x^2 + 9}$$

Your work: