QUIZ 7.1 – 7.2

NO Calculator Section

**Multiple Choices:**

1. What is the area of the region bounded by the graphs of and ?

A) B) C) D)
2. The figure below shows the graphs of and .
What is the area of the shaded region?
 

A) B) 10 C) D)
3. Which integral gives the area A of the region bounded by the graph of and the tangent line to the graph of *f* at ?

A) B) C) D)

**Free Response Questions:**

1. Determine the area of the shaded region: [3]



1. Sketch the region bounded by the graphs of and for and determine an integral that represents the area of the enclosed region (without evaluating it). [2]

Calculator section

1. A tank contains 125 gallons of heating oil at time .
During the time interval hours, heating oil is pumped into the tank at the rate: gallons per hour.
During the same time interval, heating oil is removed from the tank at the rate:
 gallons per hour.
a) How many gallons of heating oil are pumped into the tank during the time interval hours?
 [2]

b) Is the level of heating oil in the tank rising or falling at time hours? Justify. [2]

c) How many gallons of heating oil are in the tank at time hours? [2]

d) At what time , for , is the volume of heating oil in the tank the least? Show the analysis that leads to your conclusion. [2]
2. The graphs of and are given. Determine the area of the shaded region (show all your work. You can only simplify the final calculation with your calculator): [2]

