Math 120 D, E - Autumn 2006
Mid-Term Exam Number One
October 19, 2006
Answers

Version A - Circular Forest in problem 1 had a radius of 8 km

1. 3.352830091191629 hours

2. The largest area will be achieved when the rectangles have dimension 112.5 meters by 150 meters, with the long side parallel to the river.

3. 2.093356 after Bernard starts walking, i.e. around 8:05:36 AM.

4. $x = -9.5$ is the only fixed point.

Version B - Circular Forest in problem 1 had a radius of 10 km

1. 3.43994336392338702 hours

2. The largest area will be achieved when the rectangles have dimension 75 meters by 100 meters, with the long side parallel to the river.

3. 4.6 hours after Bernard starts walking, i.e. at 9:36 AM.

4. $x = -11.5$ is the only fixed point.