Math 120 A, B Winter 2013
Final Exam
March 16, 2013
Answers

1. 10.020139 km

2.
$$\text{area} = \begin{cases} \frac{1}{2}x(10 - \frac{4}{5}x + 10) & \text{if } 0 \leq x \leq 5 \\ \frac{5}{2}(16) + \frac{1}{2}(x - 5)(6 - \frac{3}{2}(x - 9)) & \text{if } 5 \leq x \leq 9 \end{cases}$$

3. (a) $f(t) = 28 + 17\sin(\frac{2\pi}{24}(t - 11))$ (b) 8.7579014 hours per day (c) 65.1052 hours

4. (a) (-28.526479, -25.4020675) (b) (34.25635,16.89755)

5. 77.1209656 years after 1965

6. (a) The squares should have sides of length 57.6 meters (b) The squares should have sides of length 0 meters.