

Math 120 A Spring 2017  
Final Exam  
June 3, 2017  
Answers

1. (a)  $r(t) = 12.5 + 9.5 \sin\left(\frac{2\pi}{6}(t - 7)\right)$  (b) 13.8015 hours after midnight
2. (a) 150.663706 seconds (b) 260.5559 meters north
3. 260.255469 feet
4. 50 feet by  $\frac{250}{13}$  feet
5.  $\frac{82}{13}$  seconds
6. (a)  $g(f(g(x))) = \begin{cases} \frac{1}{4}x - 2 & \text{if } x \geq -4 \\ -\frac{1}{4}x - 4 & \text{if } x < -4 \end{cases}$  (b)  $h^{-1}(x) = \frac{5x-34}{2x-17}$
7.  $(10, -16.46424\dots)$