Homework-Week 1 (Answers)

2. (a) $x(t) = 100\cos(0.2764\,t - \frac{\pi}{2})$ and $y(t) = 103 + 100\sin(0.2764\,t - \frac{\pi}{2})$.(b) 4.85 seconds and 17.89 seconds.

3. (c) Particle moves around a circle of radius a.

5. (a) -10.29 meters per second. (b)-9.849 meters per second. (c)-9.8049 meters per second. (d) $-9.8 - (4.9)\Delta t$ meters per second. (e) -9.8 meters per second.

6. (a)$y(t) = \sqrt{576 - 28t - 4t^2}$ with domain $0 \leq t \leq 9$ (b) -0.775, -1.225, -3.225 and -9.798 feet per second. These are slopes of secant lines. (c) It moves faster and faster.