## MATH 111 – FINAL EXAM Answers Autumn 2018

- 1. (a) approximately 1 mpm
  - (b) approximately 1.44 mpm
  - (c)  $h \approx 25.5$
  - (d)  $t \approx 17.5$  and  $t \approx 32$
  - (e)  $t \approx 10, t \approx 24, t \approx 55$ , and  $t \approx 63$
- 2. (a) approximately 0.42 dollars per Snarlbarg
  - (b) approximately 1.12 dollars per Snarlbarg
  - (c) approximately 0.46 dollars (or dollars per Snarlbarg)
  - (d) approximately 81 thousand Snarlbargs
  - (e) approximately 131.1 thousand dollars (or \$131,100)
- 3. (a) from q = 55 to q = 240 Kleems
  - (b) MR(q) = -0.24q + 57.48
  - (c) q = 173 Kleems
- 4. (a) 312 lifts
  - (b) 57,000 dollars
  - (c) 1025 dollars per tank
  - (d) 315 dollars per gym
- 5. (a) 5.64%
  - (b) \$7207.21
  - (c) 7.79 years
  - (d) 3.08%
  - (e) \$4368.66
- 6. (a) Alice
  - (b) Cecelia
  - (c) during their  $25^{th}$  year
  - (d) during their  $23^{rd}$  year
- 7. (a) \$2645.21
  - (b) 20 years
  - (c) \$336234.69