## MATH 111 - FINAL EXAM Answers <br> 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) $M R(q)=-0.24 q+57.48$
(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 $25^{\text {th }}$ year
(d) during their $23^{r d}$ year
7. (a) $\$ 2645.21$
(b) 20 years
(c) $\$ 336234.69$
