

CSE 312: Foundations of Computing II
Answers to review questions for final exam
March 15, 2014

1. (a) $E[F] = 32 + 1.8\mu$, $\text{Var}(F) = (1.8)^2\sigma^2$.
(b) $32 + 1.8\mu - 1.8\sigma$ to $32 + 1.8\mu + 1.8\sigma$.
2. The expected amount is ∞ .
3. (a) 0.9744; if you got 0.9474, you forgot the continuity correction
(b) 0.9580
4. (a) $0.632 + 0.050 = 0.682$
(b) 0.018
5. (a) $\binom{n}{2}$
(b) $2\binom{n}{2}$
(c) Use the pigeonhole principle
6. 0.275
7. (a) 0.3174
(b) 0.0456
8. (a) $\frac{1}{n} \sum_{i=1}^n x_i^2$
(b) $\frac{1}{n} \sum_{i=1}^n (x_i - \mu)^2$ vs. $\frac{1}{n} \sum_{i=1}^n (x_i - \hat{\theta}_1)^2$ (The former turns out to be unbiased, the latter biased.)
9. $-n / (\sum_{i=1}^n \ln x_i)$