

Math 107. Review for the second midterm
Solutions to the problems which are not solved in the book.

- 6.8** (a) 0.147; (b) 0.294; (c) 0.336; (d) 0.168.
- R.82** $f(0) = 0.0467$; $f(1) = 0.1866$; $f(2) = 0.3110$; $f(3) = 0.2765$;
 $f(4) = 0.1382$; $f(5) = 0.0369$; $f(6) = 0.0041$.
- R.89a** 0.003.
- 6.26** $f(0) = 0.558$; $f(1) = 0.386$; $f(2) = 0.055$; $f(3) = 0.001$.
- 6.36** (a) $\frac{\binom{45}{2}\binom{75}{3}}{\binom{120}{5}} = 0.351$.
(b) Since $n = 5$ and $p = \frac{45}{120} = 0.375$, $f(2) = \binom{5}{2}(.375)^2(1 - 0.375)^3 = 0.343$.
- R.101** (a) $\frac{\binom{8}{2}\binom{6}{2}}{\binom{14}{4}} = 0.420$; (b) $\frac{\binom{8}{1}\binom{6}{3}}{\binom{14}{4}} = 0.160$.
- R.95** (a) 0.030; (b) 0.185; (c) 0.189 (d) 0.077.
- 6.68** $\mu = 2.5$
- 6.78** (a) $\mu = 72$, $\sigma = 6$.
(b) Since $1 - \frac{1}{k^2} = 0.96$ yields $k = 5$, with probability of at least 0.96 he/she will get between 42 and 102 correct answers.
- 7.12** (a) $z = 0.5$ or $z = -0.5$; (b) $z = -1.11$; (c) $z = 2.0$; (d) $z = 1.96$ or $z = -1.96$.
- R.85** (a) $0.5000 - 0.3264 = 0.1736$;
(b) $0.3264 + 0.2324 = 0.5588$;
(c) $0.5000 - 0.2324 = 0.2672$;
- 7.32** Since $\frac{23.5-28.2}{5.1} = -0.92$ the answer is $0.3212+0.5000= 0.8212$.
- 7.38** $\mu = 7.5$, $\sigma = 2.525$.
(a) Since $\frac{5.5-7.5}{2.525} = -0.79$ the answer is $0.2852+0.5000= 0.7852$.
(b) Since $\frac{10.5-7.5}{2.525} = 1.19$ the answer is $0.3830+0.5000= 0.8830$.
- R.100** (a) $\frac{36.5-30}{5} = 1.3$ so the answer is $0.5000 - 0.4032 = 0.0968$.
(b) $\frac{23.5-30}{5} = -1.3$ so the answer is $0.5000 - 0.4032 = 0.0968$.
(c) $0.4032 + 0.4032 = 0.8064$.