

223 Homework #10

①

1. $\mu = 11, \sigma = 2.4 \quad z = \frac{6-11}{2.4} = -2.083$

2. $\text{invNorm}(.14) = \pm 1.08$

3. $z = \frac{92-100}{17} = -.470588$

4. $\mu = 71, \sigma = 2.2 \quad 6'5" = 72+5 = 77$
 $\text{normalcdf}(77, E99, 71, 2.2) = .00319$

5. $\text{normalcdf}(1.82, E99) = .034379$

6. $\mu = 75, \sigma = 10, x = 80$
 $\text{normalcdf}(E99, 80, 75, 10) = .69146$

7. $\mu = 41.2, \sigma = 12.3$
 $\text{invNorm}(.10, 41.2, 12.3) = 25.44$

8. $\mu = 81, \sigma = 6.4$
 $\text{normalcdf}(90, E99, 81, 6.4) = .079825$
 $1 - .0798 = 92^{\text{nd}} \text{ percentile}$

9. $\mu = 2.5, \sigma = .9$
 $\text{invNorm}(.85, 2.5, .9) = 3.43279$

10. $z = \frac{3.9-2.5}{.9} = 1.56 \quad z = \frac{2.2-2.5}{.9} = -.33$

11. middle 50% has 25% below
 $\text{invNorm}(.25) = \pm .67$

12. $\mu = 1498, \sigma = 199$
 $1299 - 1697$
 $1100 - 1896$

13. $\text{invNorm}(.77) = .7388$

14. $\mu = 1400, \sigma = 200 \Rightarrow \text{invNorm}(.77, 1400, 200) = 1547.76$

15. $\text{normalcdf}(E99, -1.88)$
 $= .03$

16. $\mu = 1775, \sigma = 191$
 $\frac{2186-1775}{191} = 2.15$

