

Math 164 (Spring 2008)

Homework #4 (Due Monday, February 11)

Turn in the following (Please show work!):

1. Stanford-Binet Intelligence Quotient (IQ) scores are known to form a bell-shaped distribution with a mean of 100 and a standard deviation of 15.
 - (a) What does the Empirical Rule has to say about the percentage of people with an IQ score between 70 and 130?
 - (b) What does Chebyshev's Inequality has to say about the percentage of people with an IQ score between 70 and 130? Does this contradict with your answer to (a)? Why or why not. (Be very precise and be careful in your wording in answering (b). Key words: "at least".)
2. Section 3.3, Problem 3.
3. Section 3.3, Problem 4.
4. Section 3.3, Problem 9.
5. Section 3.3, Problem 17.
6. Section 3.4, Problem 9. (Use z -scores.)
7. Section 3.4, Problem 10. (Use z -scores.)
8. Section 3.4, Problem 13. (Don't forget to interpret each percentile!)
9. Section 3.4, Problem 14. (Don't forget to interpret each percentile!)
10. Section 3.4, Problem 15.
11. Section 3.4, Problem 19.
12. Section 3.4, Problem 22. (Use a class width of 20 when drawing the histogram.)
13. Section 3.5, Problem 5.
14. Section 3.5, Problem 9.

Test #2 will take place on Thursday, February 7.
It will cover sections 3.1, 3.2, 3.3. (Beware that the first five problems of this assignment fall in the scope of the test, even though they are not due until Monday!!!!)