

M\$6 Homework 55

1. Twenty high school students took an examination and received the following scores: 70, 60, 75, 68, 85, 86, 78, 72, 82, 88, 88, 73, 74, 79, 86, 82, 90, 92, 93, 73
Determine what percent of the students scored within one standard deviation of the mean. Do the results of the examination approximate a normal distribution?
2. In a certain school district, the ages of all new teachers hired during the last 5 years are normally distributed. Within this curve, 95.4% of the ages, centered about the mean, are between 24.6 and 37.4 years. Find the mean age and the standard deviation of the data..
3. The amount of ketchup dispensed from a machine at Hamburger Palace is normally distributed with a mean of 0.9 ounce and a standard deviation of 0.1 ounce. If the machine is used 500 times, approximately how many times will it be expected to dispense 1 or more ounces of ketchup?
(1) 100 (2) 5 (3) 80 (4) 16
4. Find, to the *nearest hundredth*, the *sample* standard deviation for the following set of data: 6, 12, 14, 19, 24, 36
5. If the range of a set of data is 40 and the highest score is 50, what is the lowest score?
6. A traffic light on Hempstead Turnpike is green for 40 seconds, yellow for 5 seconds, and red for 15 seconds out of every minute. What is the probability that at least 4 of the next 5 cars get a green light?
7. Find the third term of the expansion $(1 + \pi)^5$.