**1. Scores on a particular test are normally distributed with a standard deviation of 4 and a mean of 30. What is the probability of anyone scoring less than 40?**

**Ans) z = 40-30/4 = 2.5 , .9938 , 99.38%**

**2. Annual salaries for a large company are approximately normally distributed with a mean of $50,000 and a of $20,000. What percentage of company workers may under $40,000?**

Ans) z = 40000-50000/20000 = -.5 = .3085 = 30.85%.

**3. IQ scores have a normal distribution with a mean of 100 and a standard deviation of 15. What percent of people have an IQ above 120?**

* z = (120-100)/15 = 1.33 = 1 – 0.9082 = 0.0918 (9.18%).

**5. The amount of candy dispensed by a candy machine is normally distributed with a mean of 0.9 oz and a standard deviation of 0.1 ounces. If the machine is used 500 times, how many times will it dispense more than 1 oz of candy?**

* First, find the probability of more than 1 oz candy being dispensed: z = 1 – 0.9 / 0.1 = 1 = .8413. The area greater than this (to the right of the z-score) is 1 – .8413 = 0.1587. Finally, find 15.87% of 500 = 79.35 (rounded down that’s 79 times out of 500).