

1) A certain company decided to subject its employees to an IQ test. The mean of the IQ test was 115, with a standard deviation of 16. Assume that IQ test values follow a normal distribution.

Determine the probability that the value of the IQ test for a randomly selected employee is

a) less than or equal to 120,

b) greater than 105,

c) in the range of 100 to 130,

d) exactly 118.

2) The lifespan of a certain product follows an exponential distribution with a mean of 200 hours. Determine the probability that a given product:

a) will be functional for a maximum of 150 hours,

b) will be functional for at least 250 hours,

c) will be functional for exactly 180 hours.

Employee will be:

mean lifespan of 200 hours.