**Probabilities**

The medical centre has 2 computers A and B at reception. The probability that one is working is 90% What is the probability that

* both are working?
* At least one is working?
* Non is working?
* Only A is working?
* Only B is working?

# z Tranzformations, Comparing Scores

#### Exercise 1: Job Application Standard Tests

You advertise a sales position in your company

You invite 4 candidates and ask them to take a Leadership Skills Test and a Management Skills Test

* The Leadership Skills Test has a mean of 20 and standard deviation of 3
* The Management Skills Test has a mean of 80 and standard deviation of 12

Here are the test results

|  |  |  |
| --- | --- | --- |
|  | Leadership Skills Test | Management Skills Test |
| Candidate 1 | 21 | 75 |
| Candidate 2 | 24 | 88 |
| Candidate 3 | 23 | 89 |
| Candidate 4 | 25 | Unable to attend |

1. Which of the candidates are better in Leadership than they are in Management?
2. Compare the different candidates. Based on the test results which candidate would you select?
3. If candidate 4 is as strong in Management as he is strong in Leadership, what result would you expect in the Management skillstest?

# Worksheet 2: z Tranzformations, Comparing Scores

#### Exercise 1: Chocolate Bar Prodction

The weight of a chocolate bar is normally distributed with a mean of 54 gramm and a standard deviation of 2 gramm

1. Sketch the distribution showing the weight distribution of the chocolate bars..
2. What is the proportion of chocolate bars weighting below € 54g.- ?
3. What is the proportion of chocolate bars weighting between 52g and 56g ?
4. What is the proportion of chocolate bars weighting below 56g
5. What is the proportion of chocolate bars weighting more than 56g.- ?
6. What is the proportion of chocolate bars weighting below 52g ?
7. What is the proportion of chocolate bars weighting between 50g and 58g ?
8. What is the proportion of chocolate bars weighting below 50g ?
9. What is the proportion of chocolate bars weighting more than 58g ?
10. What is the proportion of chocolate bars weighting between 50g and 52g

#### Exercise 2: Weekly Spending

Weekly spending is normally distributed with an average of € 110.- and a standard deviation of € 10.-

1. Sketch the distribution howing spending on weekly shopping.
2. What is the proportion of people spending below € 110.- ?
3. What is the proportion of people spending between € 100. - and € 120.- ?
4. What is the proportion of people spending below € 120.- ?
5. What is the proportion of people spending more than € 120.- ?
6. What is the proportion of people spending below € 100.- ?
7. What is the proportion of people spending between € 90. - and € 130.- ?
8. What is the proportion of people spending below € 130.- ?
9. What is the proportion of people spending more than € 130.- ?
10. What is the proportion of people spending between 90 and € 100?

# Worksheet 3: z Tranzformations, Probabilities

#### Exercise 1: Night Club Customers

The attendance at a night club is thought to be normally distributed with a mean of 1580 customers and a standard deviation of 120 customers.

Calculate the following probabilities:

1. 1800 or more customers attend
2. 1500 or less ustomers attend
3. Between 1500and 1800 ustomersattend