1. In a study designed to the test the effectiveness of magnets for treating back pain, 40 patients were given a treatment with magnets and also a sham treatment without magnets. Pain was measured using a scale from 0(no pain) to 100 (extreme pain). After given the magnets treatments, the 40 patients had pain scores with a mean of 6.0 and a standard deviation of 2.6. After being given the sham treatments the 40 patients had pain scores with a mean of 7.8 and a standard deviation of 2.2.

b) Construct the 90% confidence interval estimate of the mean pain score for patients given sham treatment.

What is the confidence interval estimate of the population mean µ?

\_\_\_< µ<\_\_\_\_

2. Assume that a random sample is used to estimate a population p. Find the margin of error E that corresponds to the given statistics and confidence level. N=550, x=275, 90% confidence.

The margin of error E=\_\_\_\_

3. Listed below are the budgets (in millions of dollars) and the gross receipts (in millions of dollars) for randomly selected movies.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Budget (x) | 65 | 94 | 47 | 40 | 191 | 103 | 90 |
| Gross (y) | 64 | 69 | 43 | 54 | 567 | 141 | 44 |

1. Find the value of the linear correlation coffiecient r.

R=\_\_\_\_(critical values for correlation coefficient table attached)