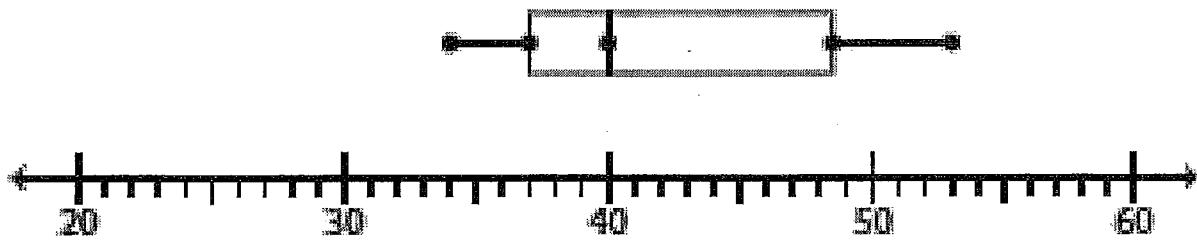Name: _____

9.07b Review WS 3: Centers, Spread, & Normal Distribution

Use the following box and whisker plot to identify the information requested in #1 – 5.

1. What percent of values fall between 40 and 49?	5. Identify the values from the data:
_____	Q1: _____
2. What percent of values are below 49?	Q2: _____
_____	Q3: _____
3. What percent of values are above 37?	Minimum: _____
_____	Maximum: _____
4. Describe the shape of the distribution of test scores.	IQR: _____
_____	Range: _____

Notes:

In a normally distributed distribution, the mean is the best measure of central tendency.

With skewed distributions (left or right),however, median can be the better measure of central tendency

The interquartile range (IQR) is the range of values within which reside the middle 50% of the scores.

The first quartile (Q1) indicates that 25% of the scores have a value lower than Q1

The third quartile (Q3) indicates that 75% of the scores have a value lower than Q3

The median is the value that is in the "middle" of the distribution (Q2), with 50% of the scores having a value less than the median

6) A set of scores with a normal distribution has a mean of 50 and a standard deviation of 7.

  a) Label the x-axis and the Empirical rule probabilities under the Normal distribution graph below.
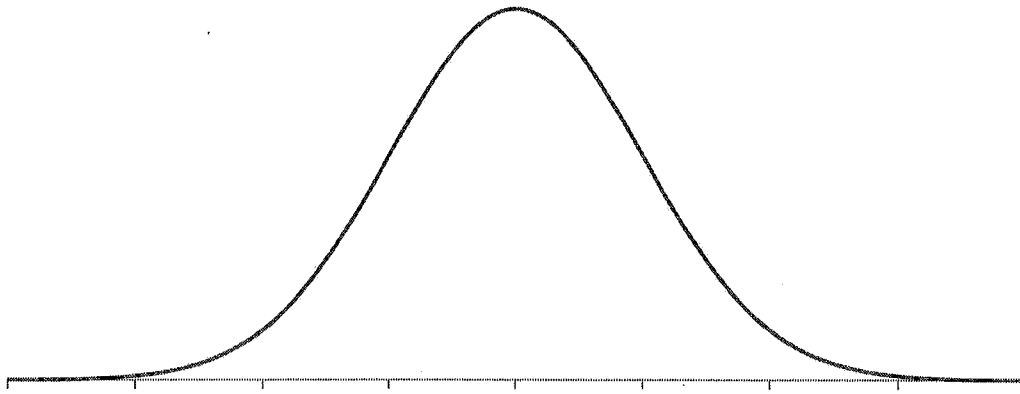
Use the scenario and graph above to answer the following questions. Show all work and write a probability statement for each. Answers may be given in percent or decimal form.

a) What percentage of scores is no more than 35? _____

b) What percentage of scores is at least 68? _____

c) What percentage of scores is between 29 and 64? _____

d) What number represents the 45ʰ percentile? _____

7) The monthly income of 5,000 workers at the Microsoft plant are distributed normally. Suppose the mean monthly income is $1,250 and the standard deviation is $250. What percentage of the workers earn less than $1750 per month? (Answer .977)