**AP Statistics Name:  
Special Problem 2 (S2017)**

**Directions**: *This is an individual assignment*. You may use your book and notes but no other outside resources including the internet. Show all your work. Indicate the methods you use, because you will be graded on the correctness of your methods as well as on the accuracy and completeness of your results and explanations.

**Problem**: The distribution of scores on an examination was approximately Normally distributed with a mean of 20 points and a standard deviation of 4 points.

1. What proportion of students scored at least 24 points on the exam?
2. What is the 41st percentile of the distribution of scores?
3. The professor wants to change the distribution of scores so that they are approximately Normally distributed with a mean of 75 points and a standard deviation of 10 points. To do this she will use the formula

converted = a + b(old score)

Find the values of a and b that she should use.

1. During the course, the professor gave a quiz with a maximum score of 10 points. The distribution of scores had a mean of 8.9 and a standard deviation of 1.9. Would it be appropriate to use a Normal distribution to calculate the proportion of students who scored below 6 points on this quiz? Justify your answer.