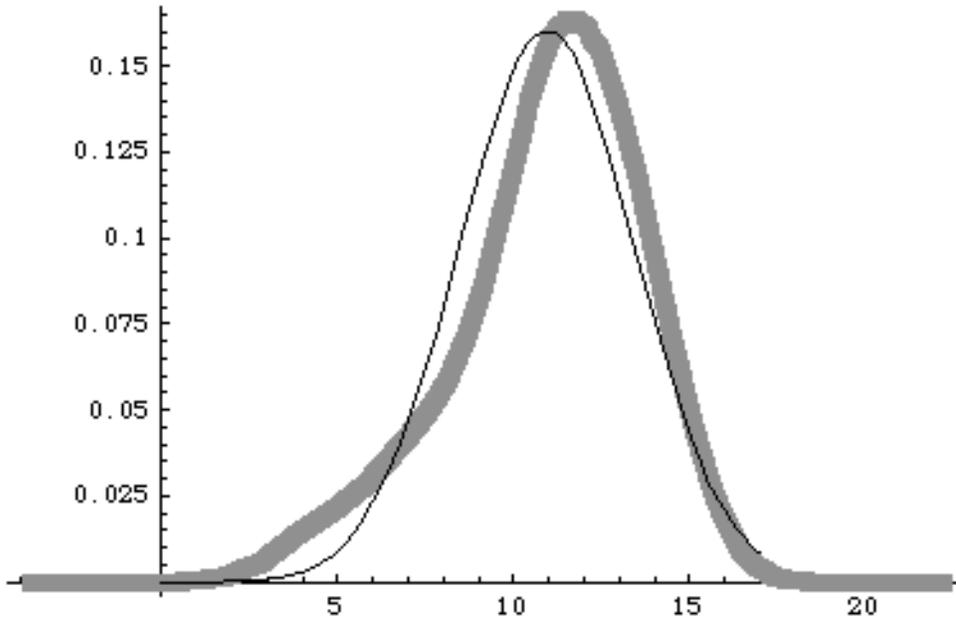
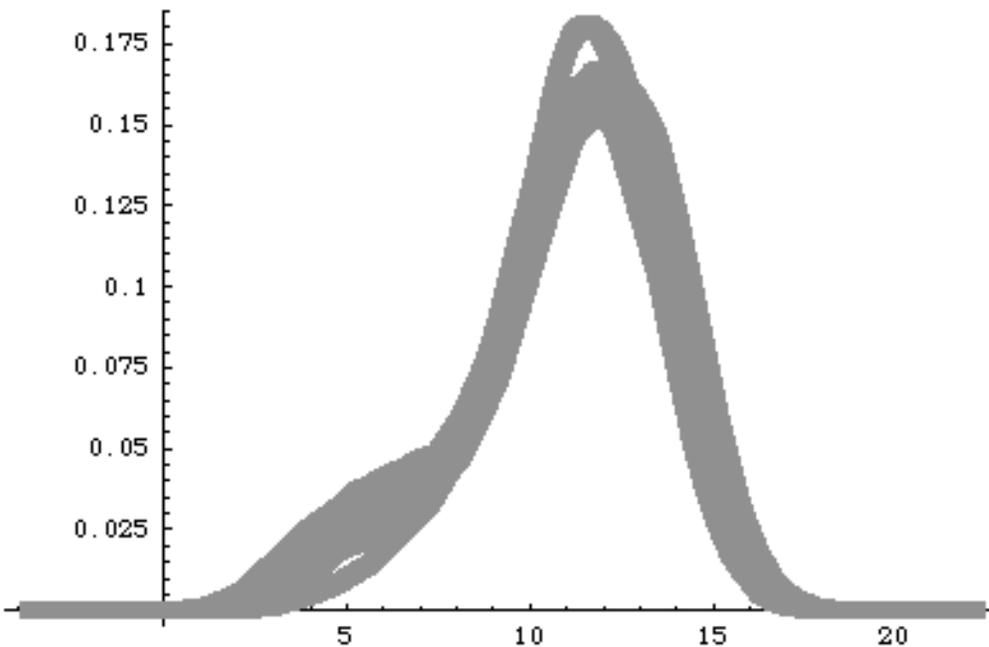


A sample of 149 final exam scores has been smoothed using bandwidth $\text{sig} = 1.2$ and plotted in comparison with a normal density having the sample mean and sample sd s of these 149 final exam scores. It may be seen that there are excessive numbers of very low scores when compared with the normal. Point scale for the final exam is
points earned on final exam = (raw score) $30 / 14.4$

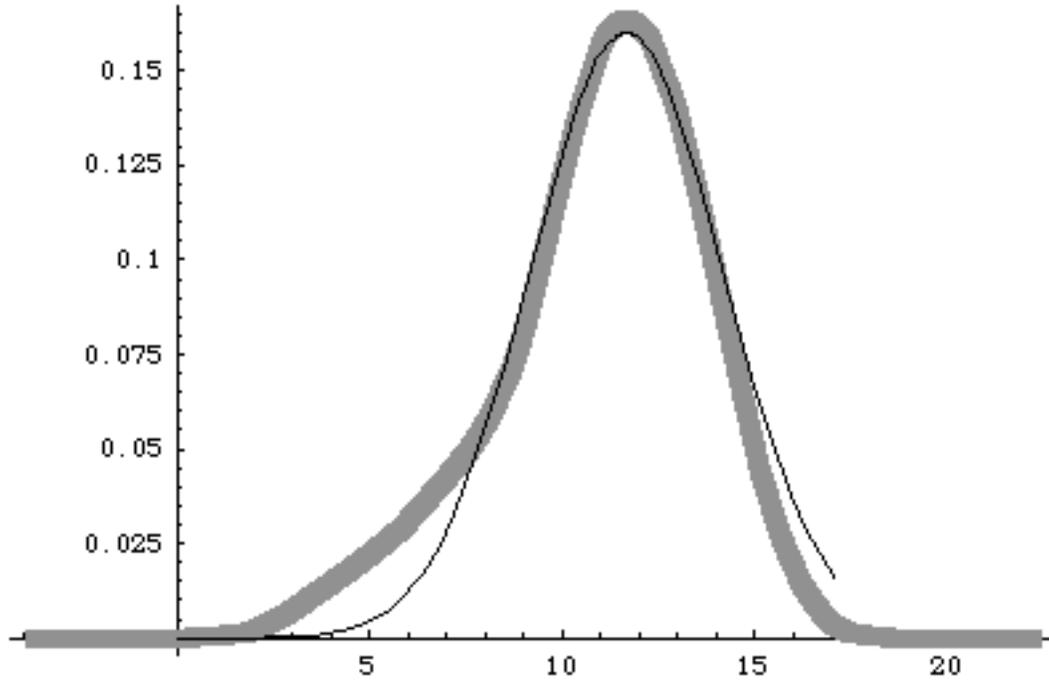
```
Show[smooth[final, 1.2], normal[mean[final], s[final]]]
```



```
smooth[sample[parafinal, 149], 1.2] (repeated 6 times)
```



In a third picture, below, the bell curve has been artificially shifted over to the right for a better comparison with the actual distribution of raw scores on the final exam.



Why so many low scores and too few very high scores? Some students performed so strongly throughout the course that they earned 4.0 with few points on the final. There were others who genuinely had trouble with the final exam.