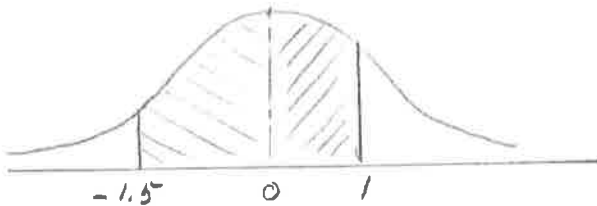


1. a) Find the area between -1.5 and 1 under the normal curve. (2)



$$\frac{A(1.5)}{2} + \frac{A(1)}{2}$$

$$\approx \frac{86.64}{2} + \frac{68.27}{2} \approx 77.46$$

b) Find the area to the right of 1.75 under the normal curve. (2)

6

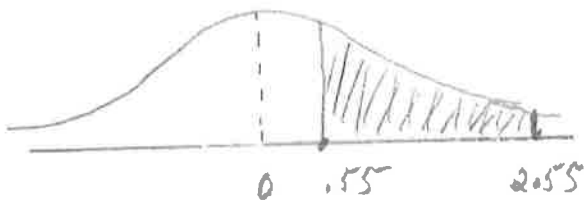
$$100\% - A(1.75) \approx 87\%$$



2. The senior students in a large California school district averaged 545 with an SD of 100 on the math portion of the SAT. The scores follow the normal curve.

a) Find the percentage of these students who scored between 600 and 800. (3)

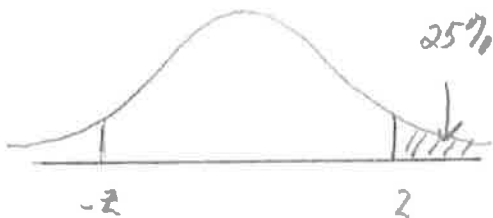
$$\frac{600 - 545}{100} = .55, \quad \frac{800 - 545}{100} = 2.55$$



$$\frac{A(2.55)}{2} - \frac{A(.55)}{2}$$

$$= \frac{98.92}{2} - \frac{41.77}{2} \approx 29\%$$

b) What test score represents the 75-th percentile? (3)



$$A(z) = 50\%, \quad z \approx .68$$

$$\frac{\text{score} - 545}{100} = .68$$

$$\begin{aligned} \text{score} &= 100(.68) + 545 \\ &= 613 \end{aligned}$$