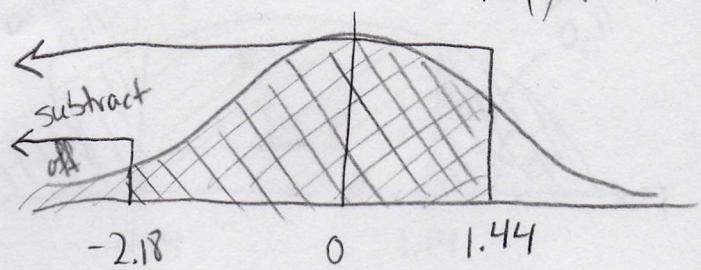
6.21 Standard Normal, Z, Normal($\mu=0$, $\sigma=1$) → $N(0,1)$

6.63 Determine area under the standard normal curve that lies between:

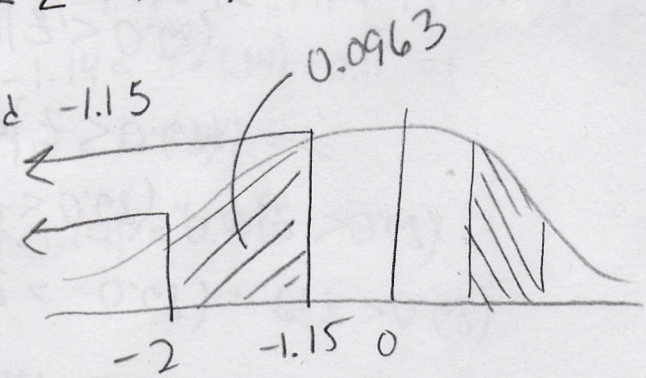
$N(\mu, \sigma)$

a) -2.18 and 1.44

$P(-2.18 < Z < 1.44)$



b) -2 and -1.15



$P(Z < -1.15) - P(Z < -2)$

$= 0.1251 - 0.0228$

$= 0.0963$

$P(Z < z)$ left tail probability

$P(Z < 1.44) - P(Z < -2.18)$

$= 0.9251 - 0.0146$

$= 0.9105$

$P(Z > z) = 1 - P(Z < z)$ ✱

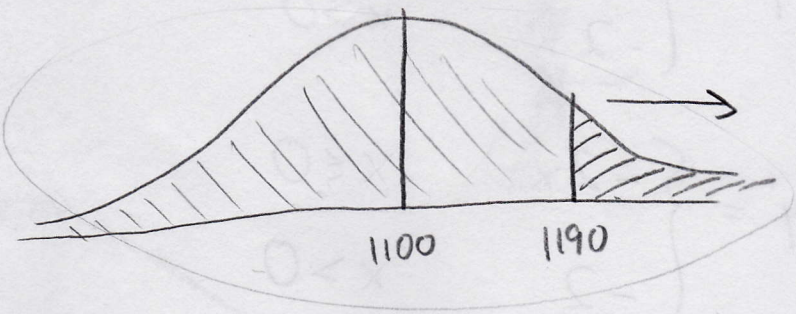
Normal ($\mu = 1100$, $\sigma = 200$)

X is SAT scores

$P(X > 1190) = 1 - P(X < 1190)$

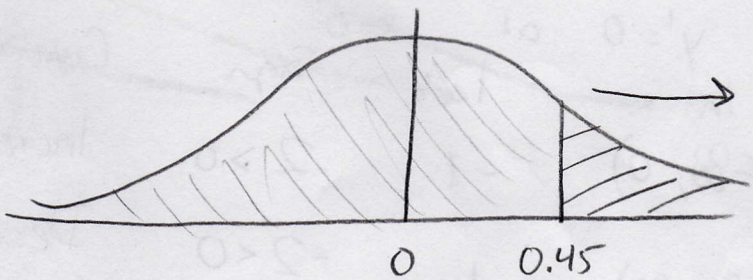
$Z = \frac{1190 - 1100}{200} = 0.45$

$P(Z > 0.45) = 1 - P(Z < 0.45)$



$= 1 - 0.6736$

$= 0.3264$



32.64%