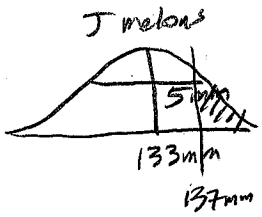
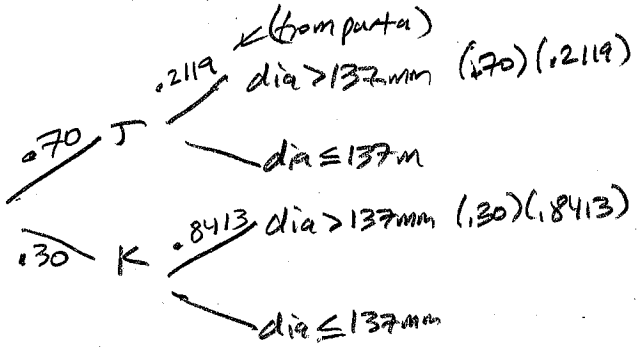
2017Q3

(a)



$P(x>137) = \text{normalcdf}(137, \infty, 133, 5) = .2119$ (lower, upper, mean, SD)

(b)



(Computer)

(I would show the tree plus at least this line on the AP exam)

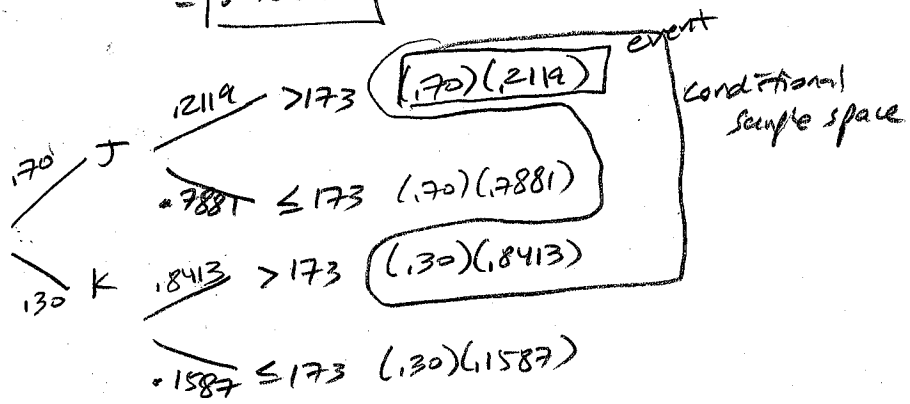
$P(>137) = P(J \text{ and } >137) + P(K \text{ and } >137)$

$= P(J) \cdot P(>137|J) + P(K) \cdot P(>137|K)$

$= (.70)(.2119) + (.30)(.8413)$

$= .40072$

(c)



$$P(J \mid >137) = \frac{\text{event}}{\text{conditional sample space}}$$

$$= \frac{P(J \text{ and } >173)}{P(>173)}$$

$$= \frac{(.70)(.2119)}{(.70)(.2119) + (.30)(.8413)}$$

$$= \frac{.14833}{.40072}$$

$$= .3702$$