

Quiz 7 MATH 1550 Fall 2018

Do §5.2 # 7 parts (b) and (c).

Soln: Here we have $\mu = 69.4$ and $\sigma = 2.9$.

For (b), we are asked to compute

$$P(66 < x < 72)$$

So make a z-score:

$$\frac{66 - \mu}{\sigma} < \frac{x - \mu}{\sigma} < \frac{72 - \mu}{\sigma}$$

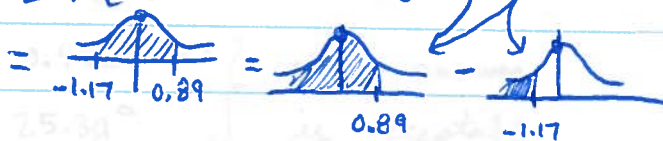
$= z$

$$\frac{66 - 69.4}{2.9} < z < \frac{72 - 69.4}{2.9}$$

$$-1.17 < z < 0.89$$

So,

$$P(66 < x < 72) = P(-1.17 < z < 0.89)$$



$$= 0.8133 - 0.121$$

$$= 0.6923$$

For (c), we are asked to compute

$$P(x > 72)$$

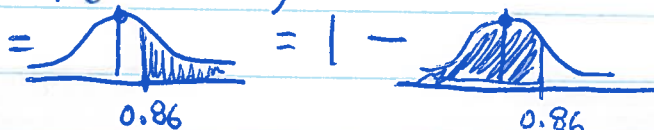
So make a z-score:

$$\frac{x - \mu}{\sigma} > \frac{72 - \mu}{\sigma} \Rightarrow z > \frac{72 - 69.5}{2.9}$$

$$z > 0.86$$

Therefore,

$$P(x > 72) = P(z > 0.86)$$



$$= 1 - 0.8051 = 0.1949$$