#1

a) $\bar{x} = \frac{47+62+49+52+50+45+44+55}{8}$

$= 50.5$

b) median : $\frac{49+50}{2} = 49.5$

c) 44 , 45 , 47, 49, 50, 52, 55, 62

$\Rightarrow P = \frac{3}{8}$

#2 $X \overset{\circ}{\sim} BIN(350, 0.681)$

$E[X] = np = 350 \cdot .6681 = 238.35$ , $Var[X] = np(1-p) = 350 \cdot 0.618 \cdot (1-0.618) = 91.0497$

$P(220 \le X \le 260) = \Phi\left(\frac{260 - np}{\sqrt{np(1-q)}}\right) - \Phi\left(\frac{220 - np}{\sqrt{np(1-q)}}\right)$

$= \Phi\left(\frac{260.5 - 238.35}{\sqrt{91.0497}}\right) - \Phi\left(\frac{220.5 - 238.35}{\sqrt{91.0497}}\right)$

$= \Phi(2.321) - \Phi(-1.87)$

$= 0.9898 - 0.0307$

$= 0.9591$