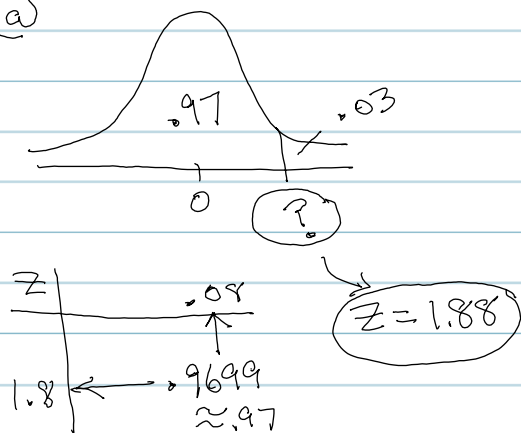
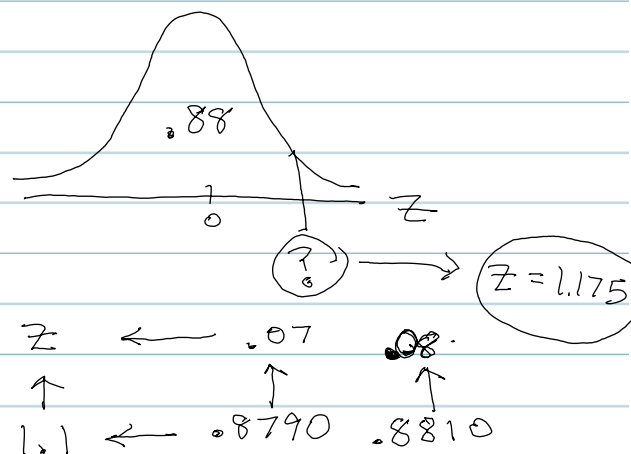


#7

a



b

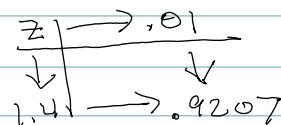


#8

$\mu = 37$, $\sigma = 9.25$ is normal

a $P(X > 50) = P(Z > 1.41) = 1 - .9207 = .0793$

$$Z = \frac{X - \mu}{\sigma} = \frac{50 - 37}{9.25} = 1.41$$

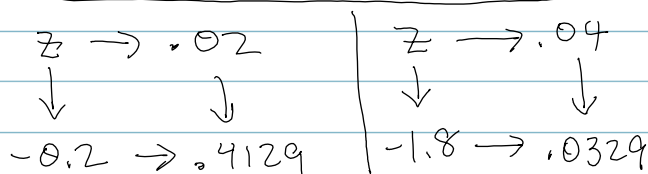


b $P(20 < X < 35) = P(-1.84 < Z < -0.22)$

$$X = 20 \rightarrow Z = \frac{X - \mu}{\sigma} = \frac{20 - 37}{9.25} = -1.84$$

$$X = 35 \rightarrow Z = \frac{X - \mu}{\sigma} = \frac{35 - 37}{9.25} = -0.22$$

$$= .4129 - .0329 = .3800$$



#9

$E(X) = 9$, $Var(X) = 3^2 = 9$, $E(Y) = 5$, $Var(Y) = 4^2 = 16$

mean = $E(X - Y) = E(X) - E(Y) = 9 - 5 = 4$ ✓

variance = $Var(X - Y) = Var(X) + Var(Y) = 9 + 16 = 25$

std. dev = $\sqrt{Var(X - Y)} = \sqrt{25} = 5$ ✓