



$P(x) = 1$ (always so, half = 0.5)

Z value $(0.5 - 0.31) = 0.19$ is equal to -0.5
from (z-table)

or,

Z value $(0.5 - 0.08) = 0.42$ is equal to 1.41
from (z-table)

Now,

$$-0.5 = \frac{45 - \mu}{\sigma} \quad \text{and} \quad 1.41 = \frac{64 - \mu}{\sigma}$$

$$\text{or, } -0.5\sigma = 45 - \mu$$

$$\Rightarrow \mu - 0.5\sigma = 45$$

— eq (i)

$$\text{or, } 1.41\sigma = 64 - \mu$$

$$\Rightarrow \mu + 1.41\sigma = 64$$

— eq (ii)

eq (ii) - eq (i) we get

$$\mu + 1.41\sigma = 64$$

$$- \mu + 0.5\sigma = -45$$

$$-0.91\sigma = 19$$

$$\sigma = 9.34 \approx 10$$

from eq (i) we have $\mu = 45 + 0.5 \times 10 = 50$

$\sigma = 10$ and $\mu = 50$