

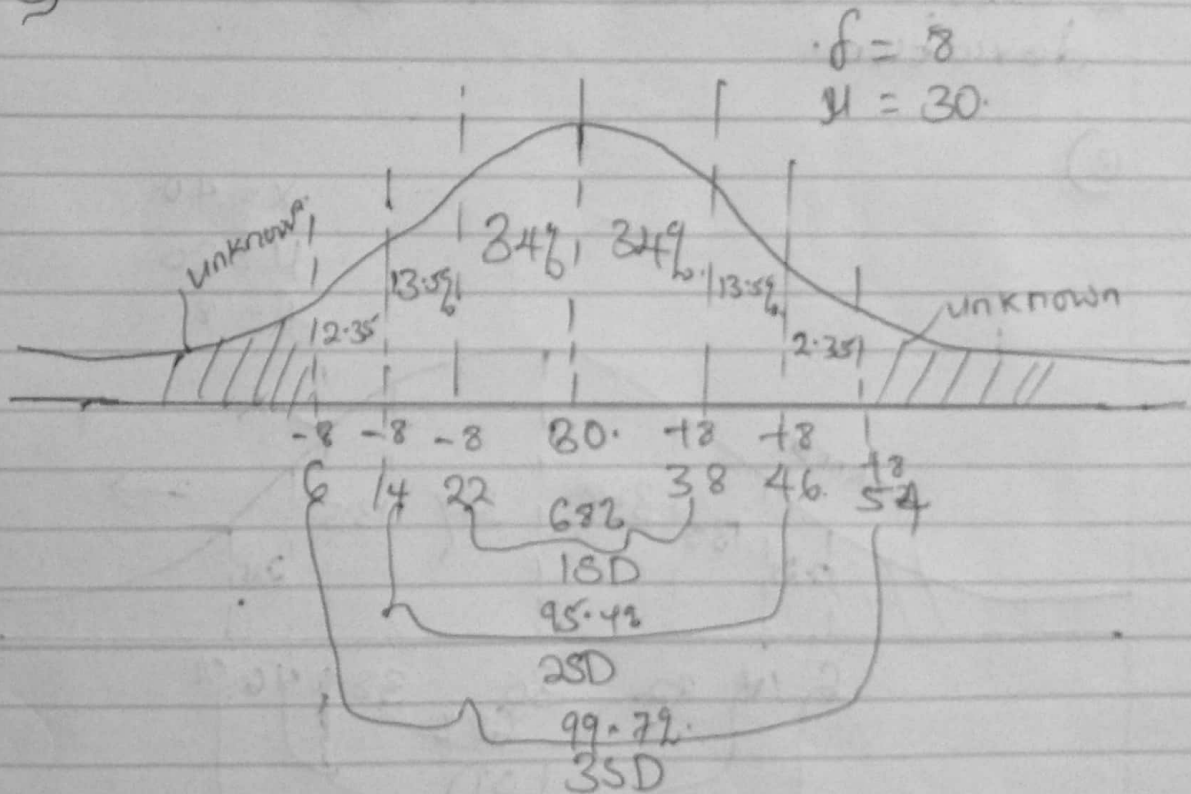
A) Mean, $\mu = 30$
 Standard deviation $\sigma = 8$

$$P(X > 15) = P\left(\frac{X - \mu}{\sigma} > \frac{15 - 30}{8}\right)$$

$$= P(Z > -1.875)$$

$$= 0.03005$$

b)



c) 1.5 Standard deviation below the mean

$$Z = \frac{X - \mu}{\sigma}$$

$$1.5 = \frac{X - 30}{8}$$

$$\mu = 30$$

$$\sigma = 8$$

$$1.5 \times 8 = X - 30$$

$$X = 42$$

d) $X = 40$
 $\mu = 30$
 $\sigma = 8$

$$Z = \frac{40 - 30}{8}$$

$$Z = 1.25$$

Thus 1.25 Standard deviations.

Z score is the unit of standard deviation.

e)

