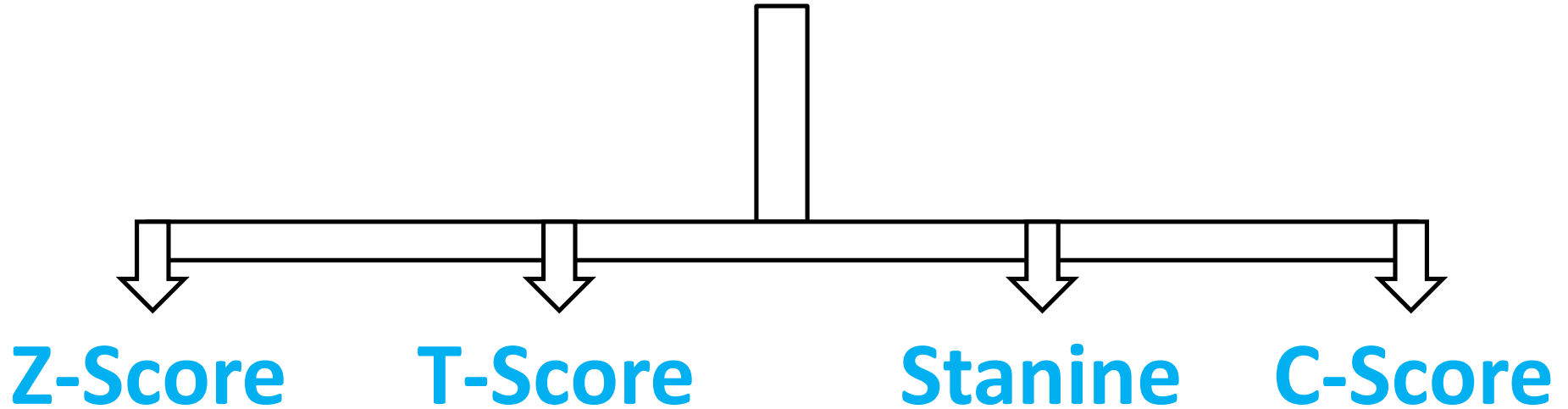
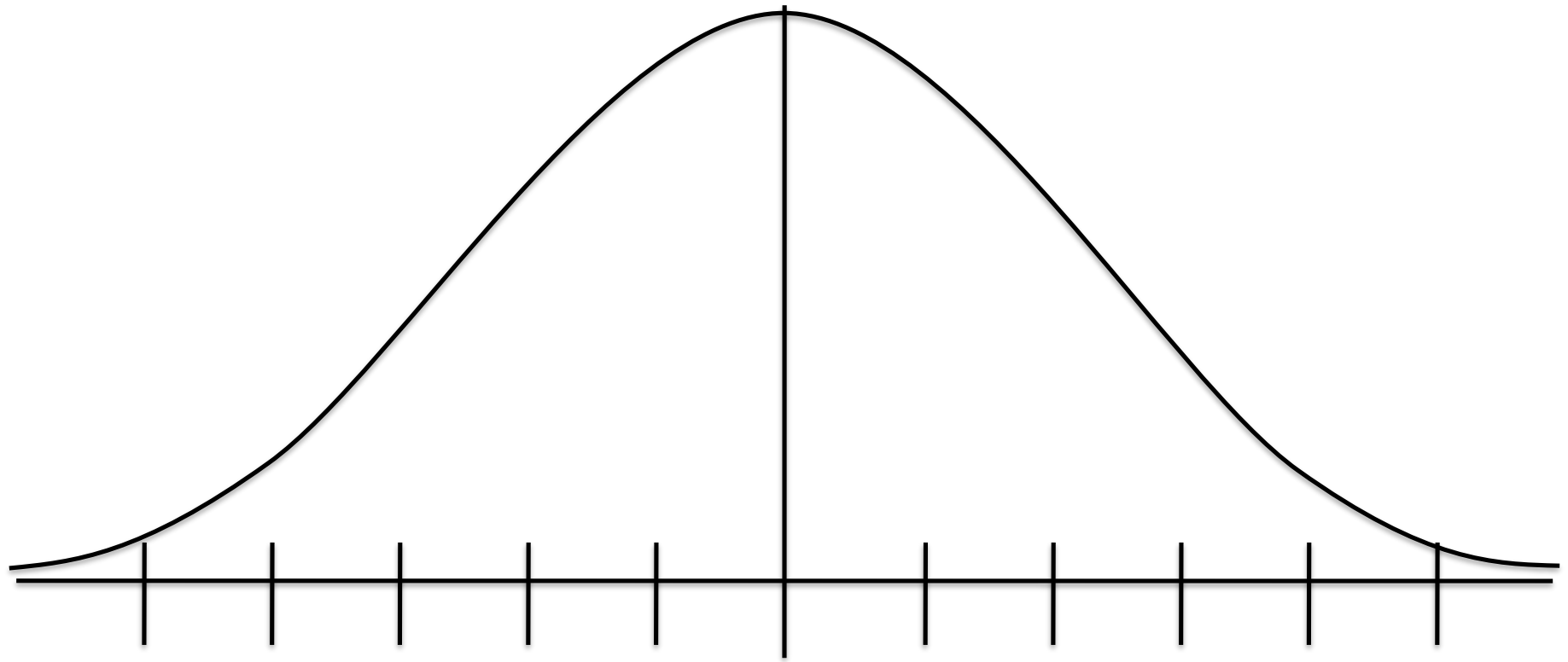


# Standard Score





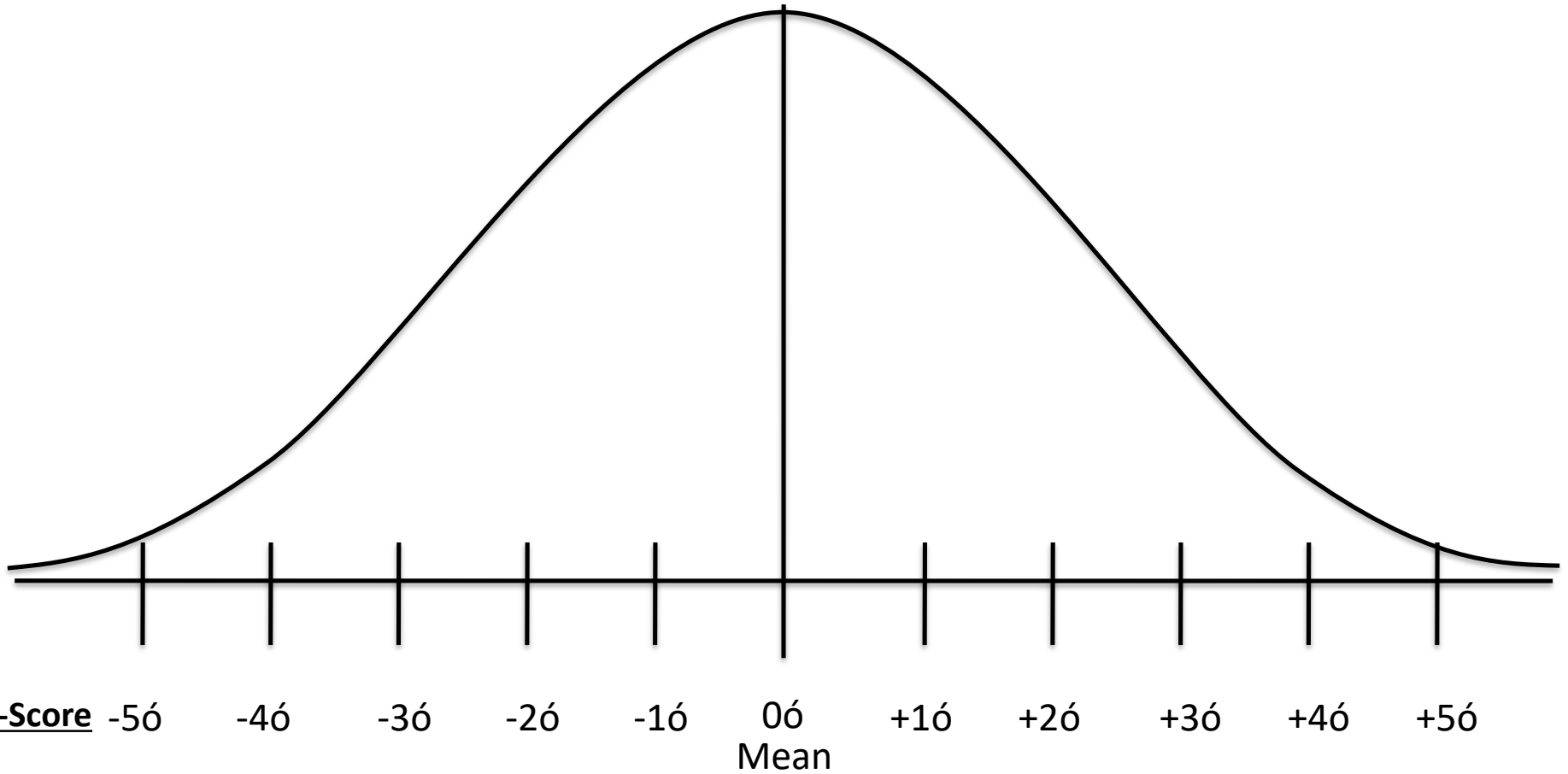
Z-Score -5   -4   -3   -2   -1   0   +1   +2   +3   +4   +5  
Mean

**Mean= 0**

**S.D.= 1**

**Range= -3 to +3**

# Z-Score



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

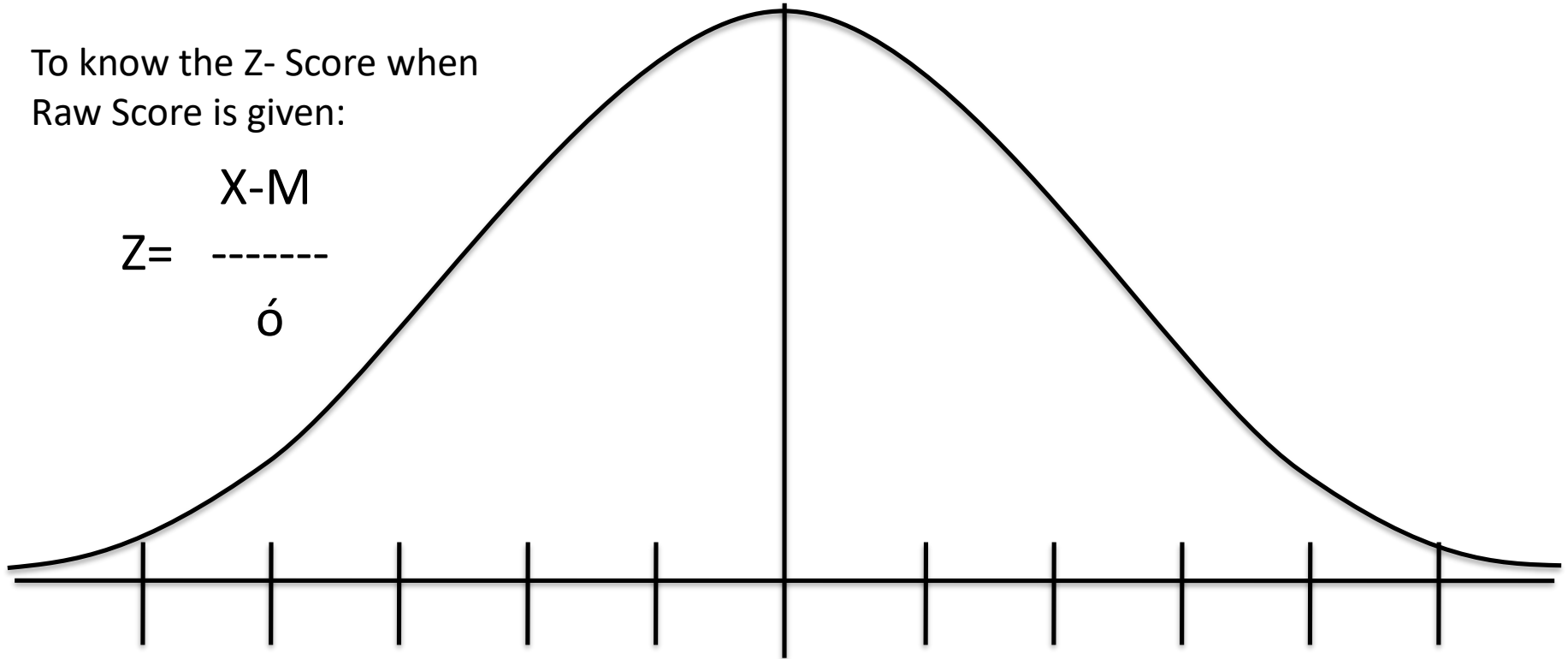
$$X = Z \cdot \sigma + M$$

Z = Value of Z Score  
X = Value of Raw Score  
σ = Standard Deviation  
M = Mean of Score

# If, $X=90$ , $\sigma=15$ , $M=75$ then $Z=?$

To know the Z- Score when  
Raw Score is given:

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



<b>Z-Score</b>	-5σ	-4σ	-3σ	-2σ	-1σ	0σ	+1σ	+2σ	+3σ	+4σ	+5σ
	0	15	30	45	60	M= 75	90	105	120	135	150

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

$$Z = \frac{90-75}{15}$$

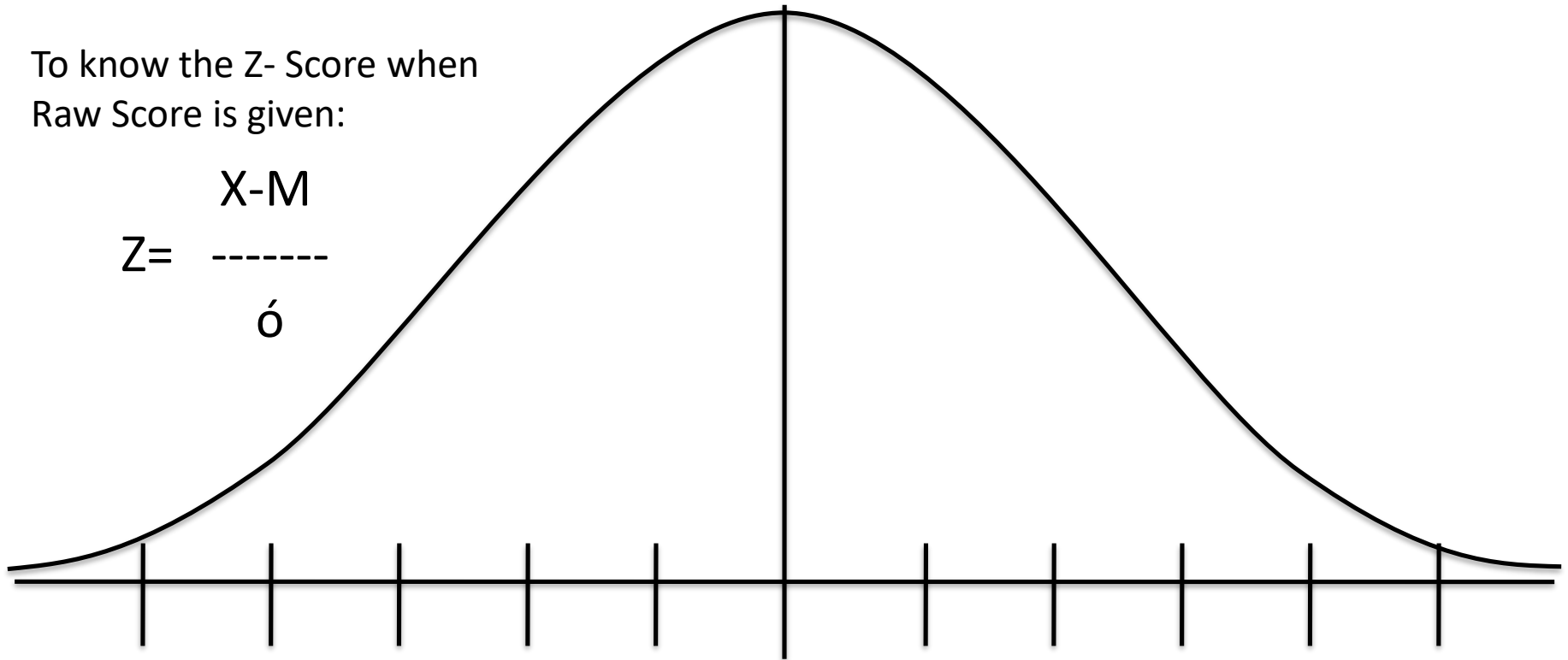
$$Z = \frac{15}{15}$$

$$Z = +1$$

# If, $X=30$ , $\sigma=15$ , $M=75$ then $Z=?$

To know the Z- Score when  
Raw Score is given:

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



<u>Z-Score</u>	-5 $\sigma$	-4 $\sigma$	-3 $\sigma$	-2 $\sigma$	-1 $\sigma$	0 $\sigma$	+1 $\sigma$	+2 $\sigma$	+3 $\sigma$	+4 $\sigma$	+5 $\sigma$
	0	15	30	45	60	M= 75	90	105	120	135	150

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

$$Z = \frac{30-75}{15}$$

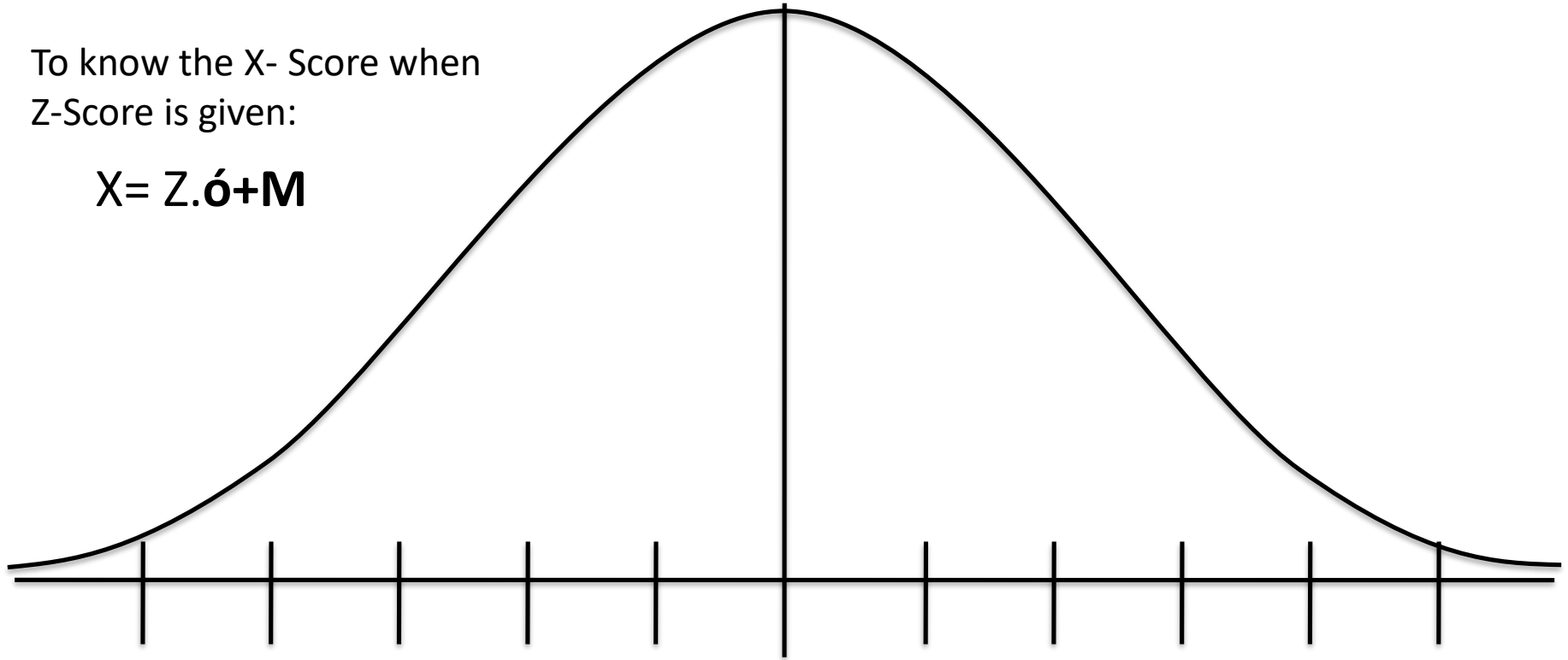
$$Z = \frac{-45}{15}$$

$$Z = -3$$

**If,  $Z=2$ ,  $\sigma=10$ ,  $M=50$  then  $X=?$**

To know the X- Score when  
Z-Score is given:

$$X = Z \cdot \sigma + M$$



<u>Z-Score</u>	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
	0	10	20	30	40	M= 50	60	70	80	90	100

$$X = Z \cdot \sigma + M$$

$$X = 2 \cdot 10 + 50$$

$$X = 20 + 50$$

$$X = 70$$