264) [True or False] The standard normal curve is symmetric about 0 and the total area under it is 1.

A)TRUE

B) FALSE

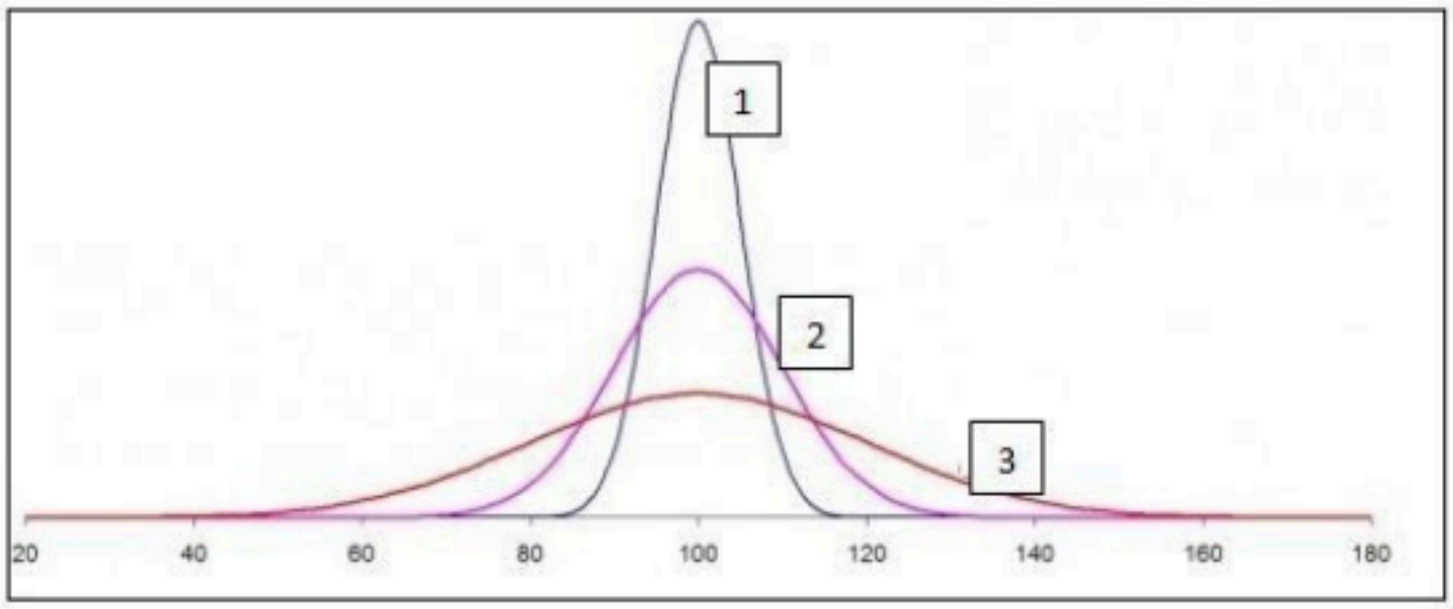
Solution: (A)

By the definition of the normal curve, the area under it is 1 and is symmetric about zero. The mean, median and mode are all equal and 0. The area to the left of mean is equal to the area on the right of mean. Hence it is symmetric.

262) For the below normal distribution, which of the following option holds true ?

σ1, σ2 and σ3 represent the standard deviations for curves 1, 2 and 3

respectively.



A) σ1> σ2> σ3

B) σ1< σ2< σ3

C) σ1= σ2= σ3

D) None

Solution: (B)

From the definition of normal distribution, we know that the area under the curve is 1 for all the 3 shapes. The curve 3 is more spread and hence more dispersed (most of values being within 40-160). Therefore it will have the highest standard deviation. Similarly, Curve 1 has a very low range and all the values are in a small range of 80-120. Hence, curve 1 has the least standard deviation.

263) What would be the critical values of Z for 98% confidence interval for a two-tailed test ?

A) +/- 2.33
B) +/- 1.96
C) +/- 1.64
D) +/- 2.55

Solution: (A)

We need to look at the z table for answering this. For a 2 tailed test, and a 98% confidence interval, we should check the area before the z value as 0.99 since 1% will be on the left side of the mean and 1% on the right side. Hence we should check for the z value for area>0.99. The value will be +/- 2.33