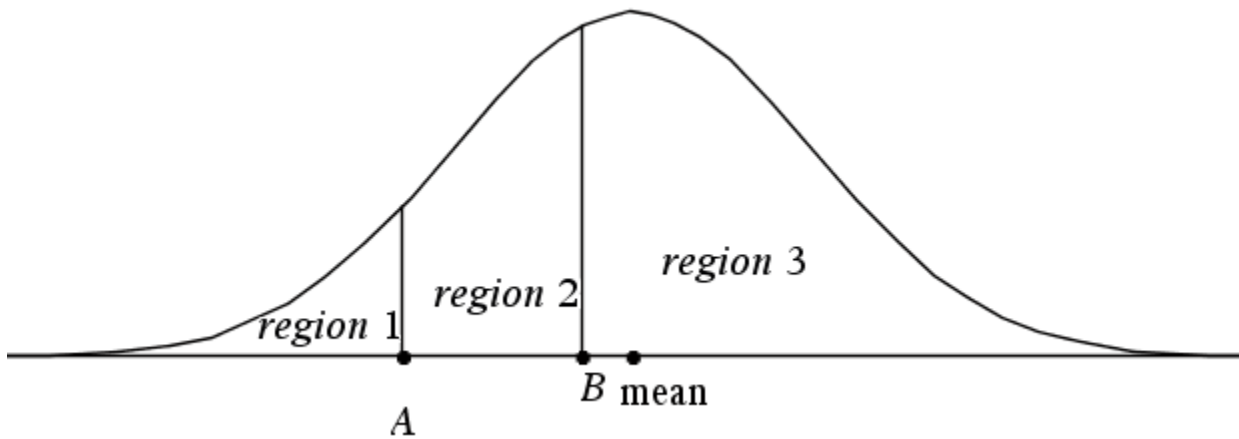


Guided Notes AND and OR probabilities related to the normal curve

AND PROBABILITY

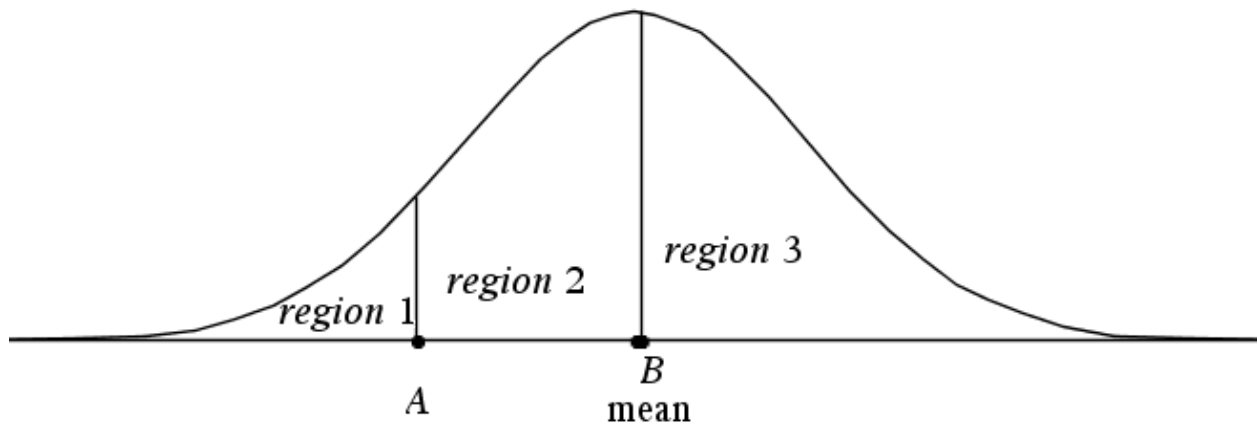


1. What do we know about the Z scores of A and B?
2. Explain how to use z chart to find region 1 (some books refer to this as the LEFT TAIL)
3. Explain how to use z chart to find region 3 (some books refer to this as the RIGHT TAIL)
4. Suppose you knew that $P(X > B) = 0.6$ and $P(X < A) = 0.18$ then how would you find region 2?

We would call this $P(A < X < B) =$ _____

5. Suppose that you knew that $P(X < B) = 0.48$ and you knew that $P(X < A) = 0.15$, then how would you find region 2?

We would call this $P(A < X < B) =$ _____



6. What do we know about the z scores of A and B?

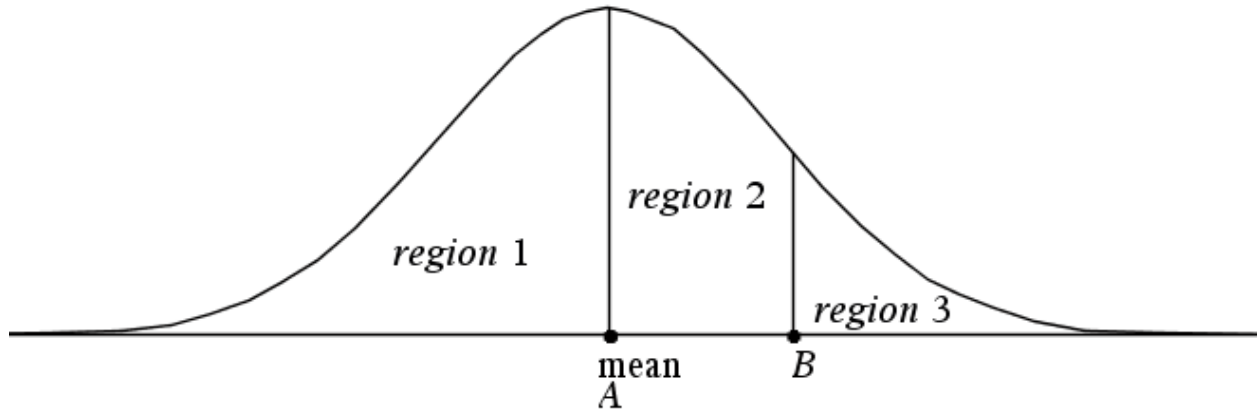
7. What is region 3 in this scenario AUTOMATICALLY? Why?

8. Suppose you knew that $P(X > A) = 0.85$ then how would you find region 2?

We would call this $P(A < X < B) =$ _____

9. Suppose that you knew that $P(X < A) = 0.13$, then how would you find region 2?

We would call this $P(A < X < B) =$ _____



10. What do we know about the z scores of A and B?

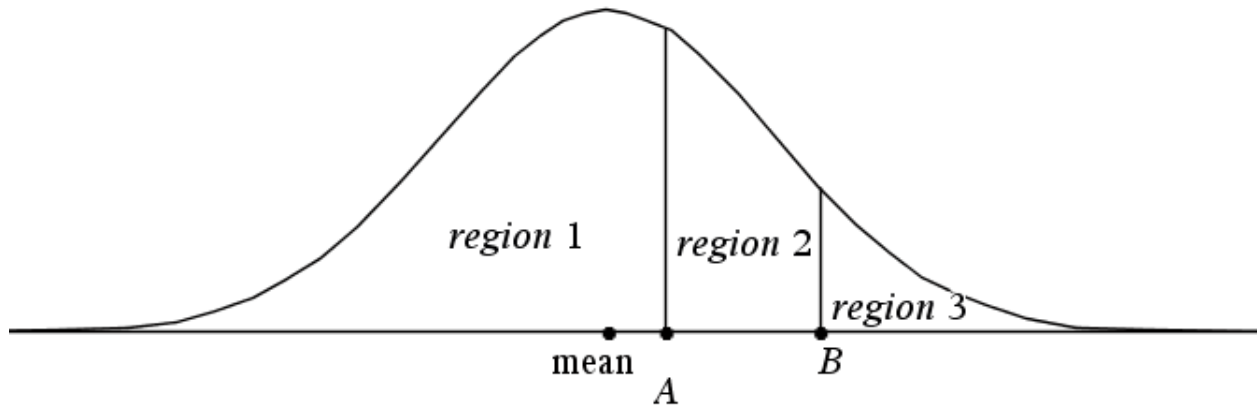
11. What is region 1 in this scenario AUTOMATICALLY? Why?

12. Suppose you knew that $P(X < B) = 0.72$ then how would you find region 2?

We would call this $P(A < X < B) =$ _____

13. Suppose that you knew that $P(X > B) = 0.22$, then how would you find region 2?

We would call this $P(A < X < B) =$ _____



14. What do we know about the Z scores of A and B?

15. Explain how to use z chart to find region 1 (some books refer to this as the LEFT TAIL)

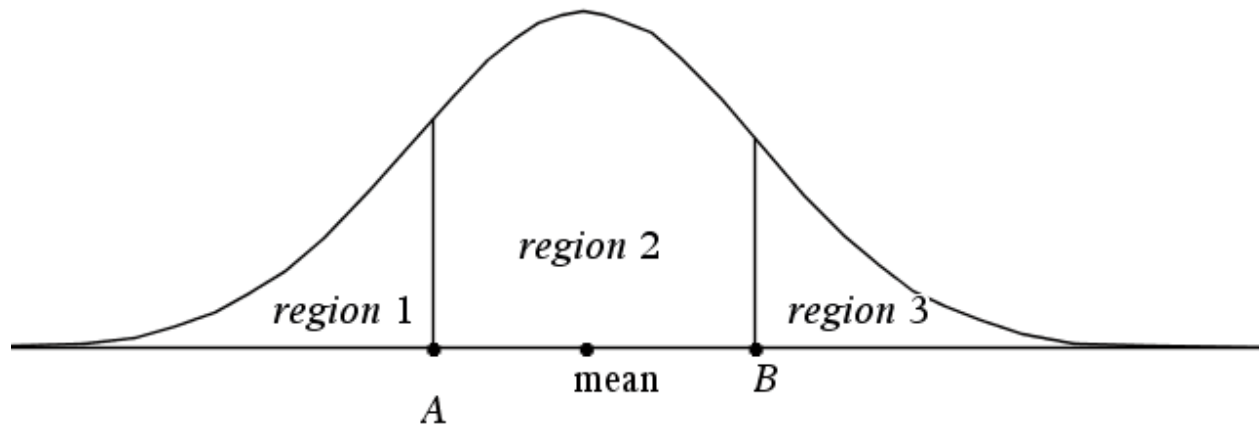
16. Explain how to use z chart to find region 3 (some book refer to this as the RIGHT TAIL)

17. Suppose you knew that $P(X > B) = 0.2$ and $P(X < A) = 0.78$ then how would you find region 2?

We would call this $P(A < X < B) =$ _____

18. Suppose that you knew that $P(X < B) = 0.98$ and you knew that $P(X < A) = 0.61$, then how would you find region 2?

We would call this $P(A < X < B) =$ _____



19. What do we know about the Z scores of A and B?

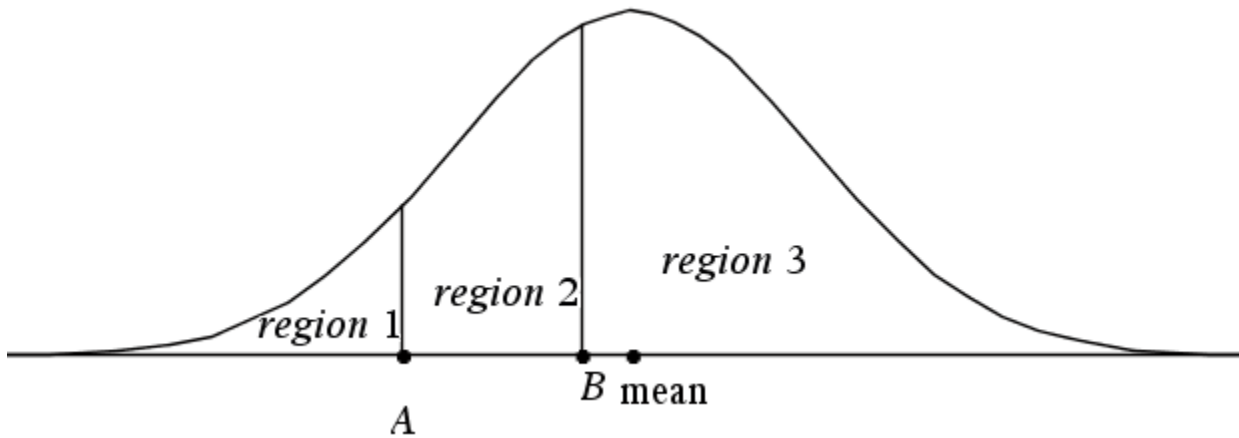
20. Suppose you knew that $P(X > B) = 0.2$ and $P(X < A) = 0.28$ then how would you find region 2?

We would call this $P(A < X < B) =$ _____

21. Suppose that you knew that $P(X < B) = 0.88$ and you knew that $P(X < A) = 0.24$, then how would you find region 2?

We would call this $P(A < X < B) =$ _____

OR PROBABILITY



22. You know that region 2 a.k.a. $P(A < x < B) = 0.4000$, then what is $P(x < A)$ OR $P(x > B)$?

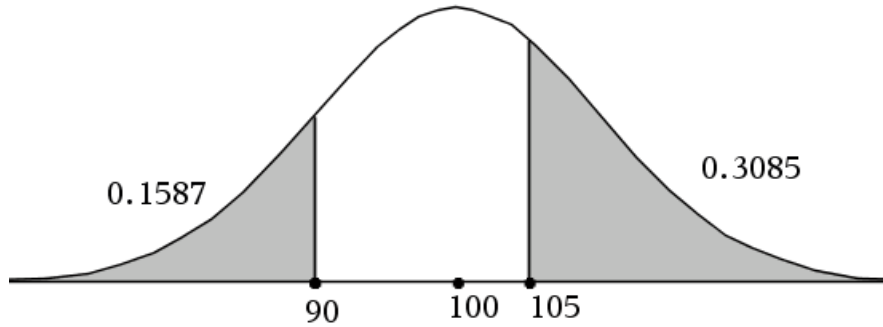
23. You know that $P(x < A)$ OR $P(x > B) = 0.62$, then what is region 2 a.k.a. $P(A < x < B)$?

24. If we think of region 1 and region 3 as the TAILS of this normal curve and region 2 as the middle, then how can we use the middle to find the tails?

25. If we think of region 1 and region 3 as the TAILS of this normal curve and region 2 as the middle, then how can we use the tails to find the middle?

Assume that mean =100 and SD =10 for all of these problems

Write a probability statements related to each of the normal curves

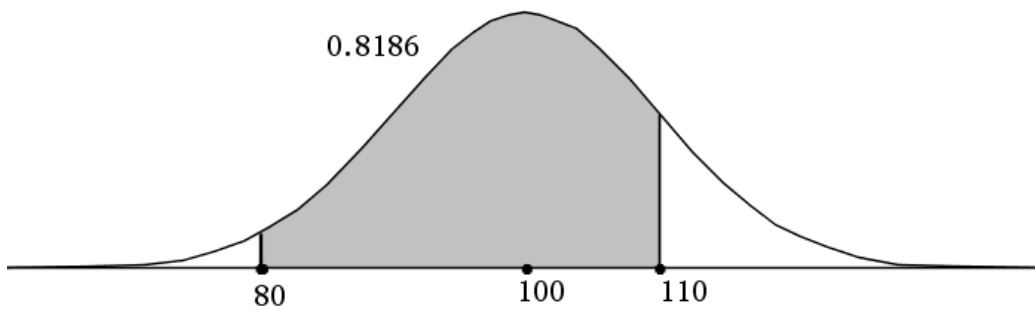


Probability statement for RIGHT tail

Probability statement for the SHADED Region

Probability statement for LEFT tail

Probability statement for the UNSHADED region



Probability statement for RIGHT tail

Probability statement for the SHADED Region

Probability statement for LEFT tail

Probability statement for the UNSHADED region

Why was the SECOND graph harder to answer questions for? _____

Assume that mean =100 and SD =10 for all of these problems

Find $P(85 < X < 112)$

Sketch the related normal curve with X scale

USING CHART

Determine related z score
and x score

Z for 85= _____

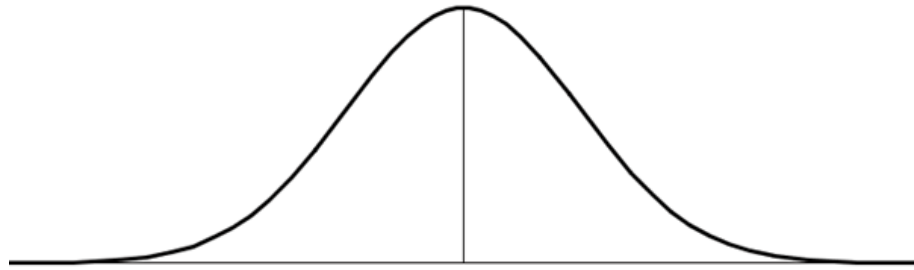
Z for 112= _____

$P(x < 85) =$ _____

$P(x > 85) =$ _____

$P(x < 112) =$ _____

$P(x > 112) =$ _____



$P(85 < X < 112) =$ _____

Find $P(x > 115)$ or $P(x > 126)$

Sketch the related normal curve with X scale

USING CHART

Determine related z score
and x score

Z for 115= _____

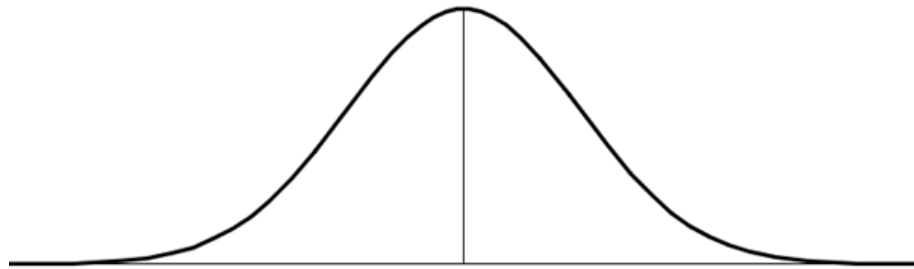
Z for 126= _____

$P(x < 115) =$ _____

$P(x > 115) =$ _____

$P(x > 126) =$ _____

$P(x < 126) =$ _____



$P(x > 115)$ or $P(x > 126) =$ _____