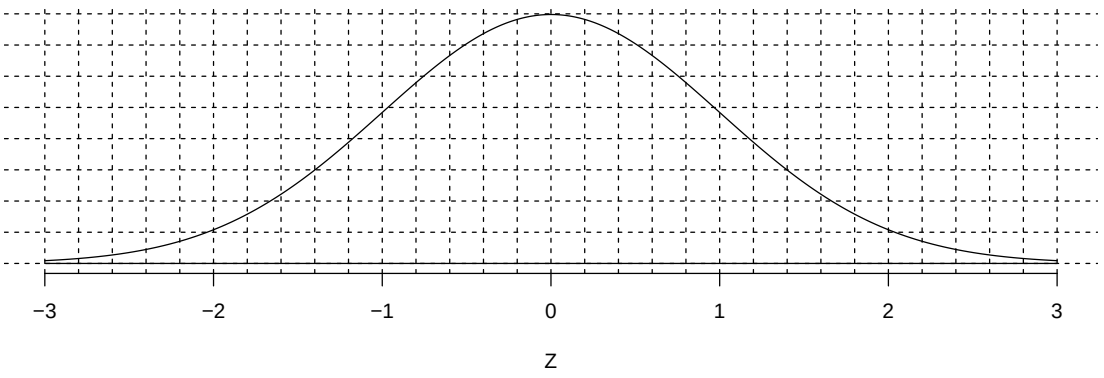
Question

The figure below shows the standard normal density. Each grid square represents 1% of probability.



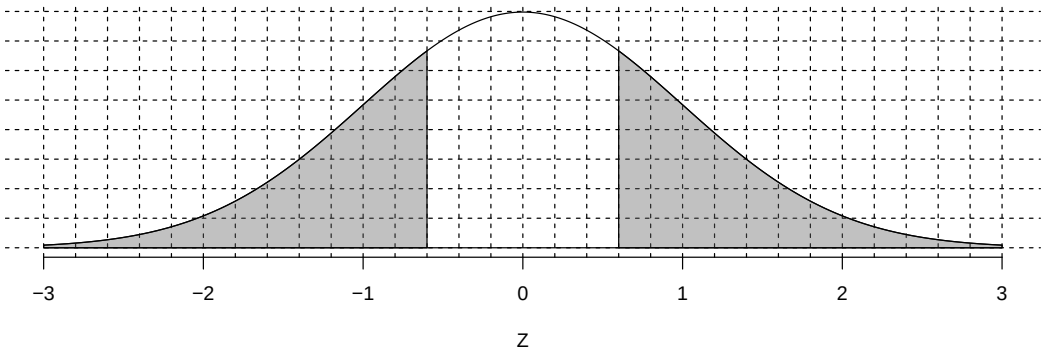
Answerlist

- Estimate z such that $P(|Z| > z) = 0.55$ by shading and counting.
- Determine z such that $P(|Z| > z) = 0.55$ by using the z-table.

Solution

Answerlist

- The shaded regions are shown below.



  When you have shaded 55 squares, starting at both tails, you should end near $z = 0.6$. Really, you want to shade 27.5 squares starting from the left and also 27.5 squares starting from the right.
- Each tail has half the two-tail area. So each tail has an area of 0.275. We can find the z score with this left area...

$$z_{\text{left tail}} = -0.6$$

But, we want the positive value (the right tail's z boundary).

$$z = \boxed{0.6}$$

Meta-information

extype: string exsolution: yo exname: marbles extol: 0.01