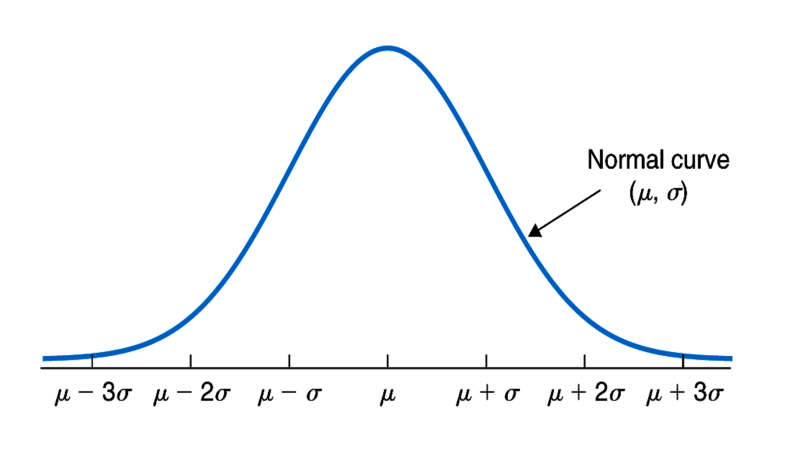
Examples

What % of PY 101 classmates scored better & worse than Lisa?

* Reminder: *Lisa’s raw score was 76%, and her z-score was +0.86.*
* This indicates that her 76% is 0.86 standard deviations **above** the class mean.
* What % of PY 101 classmates fall above and below a *z*-score of +0.86?



Answer

\_\_\_\_\_\_\_\_\_\_\_\_% of students have scores that fall *below* Lisa’s

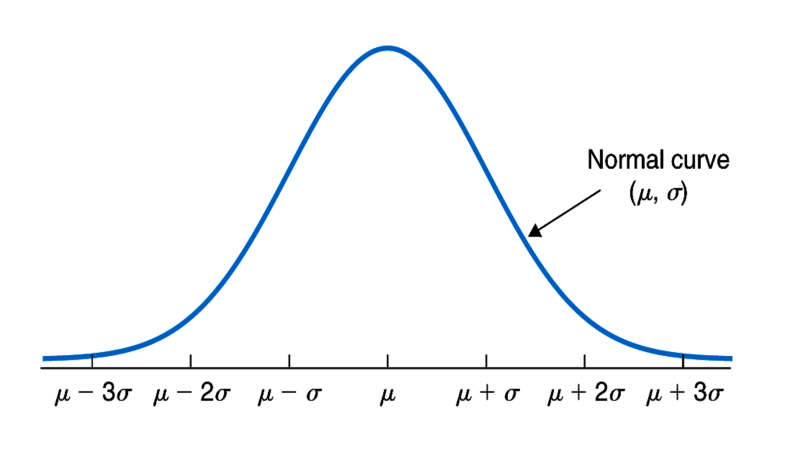
*Lisa scored higher than \_\_\_\_\_\_\_\_\_\_\_% of her classmates.*

*\_\_\_\_\_\_\_\_\_\_\_* % of students have scores that are *above* Lisa’s

*Lisa scored worse than \_\_\_\_\_\_\_\_\_\_\_% of her classmates.*

What % of BI 110 classmates scored better & worse than Bart?

* Reminder: *Bart’s raw score was 65%, and his z-score was -1.67.*
* What % of BI 110 classmates fall above and below a *z*-score of -1.67?



Answer

\_\_\_\_\_\_\_\_\_\_\_\_% of students have scores that fall *below* Bart’s

*Bart is in the bottom* \_\_\_\_\_\_\_\_\_\_\_\_%  *of students*

\_\_\_\_\_\_\_\_\_\_\_\_% of students have scores that are *above* Bart’s

*Bart performed worse than* \_\_\_\_\_\_\_\_\_\_\_\_% *of his classmates.*

*Also draw the z-distribution for each question*

Q1: Lisa’s score of 76 is 2.00 standard deviations   
*above* the class mean in BI 110.

* + What % of students in BI 110 scored below Lisa?
  + What % of students in BI 110 scored above Lisa?

Q2: Bart’s score of 65 is 0.71 standard deviations   
*below* the mean PY 101 score.

* + What % of students in PY101 scored below Bart?
  + What % of students in PY101 scored above Bart?

Q3: Allison earns 78% (her raw score) on BI 110 exam (*M* = 70, *SD* = 3).

* + What % of students in BI 110 scored below Allison?
  + What % of students in BI 110 scored above Allison?

Q4: The **BI 110** instructor wants to know which students are “standout” students, which students she should recommend re-take the course, and which students don’t fit either of these two categories. She decides that the **top 2.5%** of scorers should be considered “standouts” and the **bottom 2.5%** of scorers should retake the course.   
Which students, if any, are standouts, and which, if any, should retake the course? (Remember that BI 110 *M* = 70, *SD* = 3). *Write your formula for z-scores, and draw your curve. Use your notebook if you’d like more room!*

* Allison, with her 78%?
* Lisa, with her 76%?
* Bart, with his 65%?
* Millhouse, with his 60%