1. Stephanie gets a new job and finds out that on the basic math skills test she took as a new employee, she ranks 20th out of 400 employees. What is her percentile?

2. Stephanie's brother, Stephan who is about to graduate from high school is at the 72nd percentile in his high school class of 300 students. What is Stephan’s rank in his class?
Answers

1. Stephanie gets a new job and finds out that on the basic math skills test she took as a new employee, she ranks 20\(^{th}\) out of 400 employees. What is her percentile?

   Since she ranks 20\(^{th}\), there are 380 people below her. That is 380 out of 400 = \(\frac{380}{400} = 0.95 = 95\%\). Since 95\% of the employees are below Stephanie, she must be at the 95\(^{th}\) percentile.

2. Stephanie’s brother, Stephan who is about to graduate from high school is at the 72\(^{nd}\) percentile in his high school class of 300 students. What is Stephan’s rank in his class?

   Since Stephan is at the 72\(^{nd}\) percentile, that means there must be 72\% of the students below him. 72\% of his whole class is 72\% of 300 = (0.72)(300) = 216 students below him. We draw a little picture.

   ![Diagram showing 300 students with 216 below Stephan]

   Since there are 216 students below Stephan, there must be 300 – 216 = 84 students from Student #1 through Stephan. Therefore, Stephan’s rank is #84.