

## How are the deciles determined for the CKE and the SOA?

Your decile is representative of your ranking. A score of one is good and a score of ten is poor.

Deciles slots candidates into a ranking of equal-size groups by question. The overall decile is a separate ranking based on total marks, broken down by ten equal-size groups. To obtain the overall decile, one cannot average or perform a weighted-average calculation on deciles because the range of the marks in a decile is not constant and the standard deviation on each question is not constant.

Therefore, the accumulation of poor decile scores (or strong decile scores) has an additive effect. For example, a candidate may receive a seven in each question and this would produce an overall decile which is worse than a seven.

For example:

Suppose that on each question the 10th decile was a score between 0 and 10. Keeping in mind that the students in the 10th decile on Question one are rarely the same students who are in the 10th decile on question 2 and question 3. Therefore for the exam overall the 10th decile (or the bottom 10% of the students) would be a score of between 0 and possibly 40 not 0-30. This is why students who receive a decile ranking of say 8 on each question will receive an overall decile ranking which is worse than 8.

A second example:

Using the above analogy. Suppose each group represents 10% of the population of the exam.

Group A scores 10 on Question 1, 14 on Question 2 and 12 on Question 3. Their total for the exam would be 36 and their decile rankings for each question would be 10, 8 and 9.

Group B scores 13 on Question 1, 12 on Question 2 and 10 on Question 3. Their total for the exam would be 35 and their decile rankings for each question would be 8, 9 and 10.

Group C scores 12 on Question 1, 10 on Question 2 and 15 on Question 3. Their total for the exam would be 37 and their decile rankings for each question would be 9, 10 and 8.

For each question the 10th decile would be a range of 0-10 but on the exam as a whole the 10th decile would be 0-35. Someone scoring 11 on each question would receive a 9th decile on each question but would receive 10th decile overall as their score would be 33 and would therefore fall in the 0-35 range.