

## PART 2 Section B. Views about Math

### 2B.1. Learning Mathematics

How much do you agree or disagree with the following statements about learning mathematics and strategies for teaching mathematics? (Mark one response on each line. Fill in the bubble completely - ●.)

|  | Strongly<br>Agree |   |   |   |   |   | Strongly<br>Disagree |
|--|-------------------|---|---|---|---|---|----------------------|
|  | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| a. When students can solve problems, it's usually because they remember the right formula or rule.                         | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| b. If elementary and middle school students use calculators, they won't learn the math they need to know.                  | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| c. One can learn a lot by watching an expert mathematician "think aloud" while solving problems.                           | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| d. If students get into disagreements about ideas or procedures in math class, it can impede their learning of math.       | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| e. In learning math, students must master topics and skills at one level before going on.                                  | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| f. For students to understand mathematics they only need know the correct procedures and when to apply them.               | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| g. A teacher should wait until pupils are developmentally ready before introducing new ideas and skills.                   | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| h. It is important for pupils to master the basic computational skills before studying topics like probability and logic.  | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| i. If teachers target their lessons to individual students' learning styles, student learning in mathematics will improve. | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| j. Math is a subject in which effort matters a lot more than natural ability.  | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |
| k. Since older students can reason abstractly, the use of models and other visual aids becomes less necessary for them.    | ①                 | ② | ③ | ④ | ⑤ | ⑥ | ⑦                    |

## 2B.2. Strategies for Teaching Mathematics

|  | Strongly Agree |   |   |   |   | Strongly Disagree |   |
|--|----------------|---|---|---|---|-------------------|---|
|  | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| a. Students should not leave math class (or end the math period) feeling confused or stuck.  | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| b. If a student is confused in math, the teacher should go over the material again more slowly.                                      | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| c. Teachers should not necessarily answer students' questions but should let them puzzle things out themselves.                      | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| d. Creating a classroom climate that promotes students' self-esteem will result in improved math learning.                           | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| e. Students should "show their work" when they solve math problems.  | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| f. The most important issue is not whether the answer to any math problem is correct, but whether students can explain their answers | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| g. The range of ability in most classes makes whole group teaching in math virtually impossible.                                     | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| h. It is not a good idea to have students work together in solving math problems because the brighter students will do all the work. | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| i. It is as important for students to understand the concepts underlying algorithms as it is to know how to use them.                | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| j. If students are having difficulty in math, a good approach is to give them more practice in the skills they lack.                 | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| k. Because every student is different, it's best to let them progress at their own individual pace in math.                          | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |
| l. When teaching mathematics, an effective teacher uses several different models to represent mathematical ideas.                    | ①              | ② | ③ | ④ | ⑤ | ⑥                 | ⑦ |