

# Chapter III: Answers to the 2008 AP Calculus AB and Calculus BC Exams

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**Section I: Multiple Choice**

On the following pages are the correct answers to the multiple-choice questions for Form Q, the percent of AP students who answered each question correctly by AP grade, and the total percent answering correctly.

## Section I Answer Key and Percent Answering Correctly

| Item No. | Correct Answer | Percent Correct by Grade |    |    |    |    | Total Percent Correct |
|----------|----------------|--------------------------|----|----|----|----|-----------------------|
|          |                | 1                        | 2  | 3  | 4  | 5  |                       |
| 26       | A              | 53                       | 29 | 17 | 12 | 9  | 25                    |
| 27       | C              | 70                       | 52 | 41 | 31 | 20 | 43                    |
| 28       | A              | 38                       | 13 | 6  | 3  | 3  | 14                    |
| 76       | B              | 98                       | 93 | 83 | 65 | 30 | 73                    |
| 77       | C              | 89                       | 73 | 56 | 41 | 24 | 57                    |
| 78       | B              | 97                       | 91 | 80 | 61 | 28 | 71                    |
| 79       | B              | 81                       | 66 | 54 | 44 | 28 | 55                    |
| 80       | E              | 70                       | 52 | 38 | 26 | 14 | 40                    |
| 81       | E              | 90                       | 71 | 55 | 42 | 21 | 56                    |
| 82       | B              | 96                       | 88 | 77 | 61 | 27 | 69                    |
| 83       | B              | 90                       | 76 | 63 | 48 | 27 | 61                    |
| 84       | C              | 91                       | 80 | 64 | 41 | 14 | 58                    |
| 85       | B              | 76                       | 53 | 38 | 28 | 18 | 43                    |
| 86       | C              | 86                       | 71 | 58 | 43 | 18 | 55                    |
| 87       | D              | 84                       | 55 | 35 | 21 | 11 | 42                    |
| 88       | C              | 96                       | 84 | 65 | 45 | 21 | 62                    |
| 89       | E              | 67                       | 40 | 23 | 16 | 10 | 32                    |
| 90       | A              | 67                       | 37 | 20 | 11 | 10 | 30                    |
| 91       | C              | 92                       | 81 | 68 | 52 | 27 | 64                    |
| 92       | B              | 58                       | 45 | 43 | 41 | 36 | 45                    |

| Item No. | Correct Answer | Percent Correct by Grade |    |    |    |    | Total Percent Correct |
|----------|----------------|--------------------------|----|----|----|----|-----------------------|
|          |                | 1                        | 2  | 3  | 4  | 5  |                       |
| 65       | B              | 88                       | 77 | 68 | 58 | 36 | 65                    |
| 67       | D              | 96                       | 84 | 71 | 57 | 32 | 67                    |
| 39       | D              | 72                       | 48 | 35 | 26 | 14 | 39                    |
| 70       | D              | 95                       | 86 | 74 | 60 | 37 | 70                    |
| 49       | A              | 74                       | 59 | 49 | 40 | 24 | 49                    |
| 49       | A              | 74                       | 59 | 49 | 40 | 24 | 49                    |
| 67       | A              | 74                       | 55 | 46 | 39 | 30 | 49                    |
| 61       | B              | 97                       | 89 | 76 | 55 | 22 | 67                    |
| 60       | E              | 86                       | 74 | 64 | 52 | 29 | 61                    |
| 66       | D              | 95                       | 82 | 65 | 43 | 16 | 60                    |
| 66       | D              | 90                       | 79 | 69 | 58 | 35 | 66                    |
| 65       | B              | 98                       | 92 | 82 | 69 | 44 | 77                    |
| 11       | B              | 98                       | 92 | 82 | 69 | 44 | 77                    |
| 12       | D              | 89                       | 79 | 69 | 57 | 33 | 65                    |
| 13       | A              | 72                       | 51 | 36 | 24 | 14 | 40                    |
| 14       | E              | 50                       | 30 | 25 | 23 | 18 | 29                    |
| 70       | E              | 93                       | 82 | 72 | 61 | 41 | 70                    |
| 37       | C              | 93                       | 82 | 72 | 61 | 41 | 70                    |
| 50       | D              | 74                       | 46 | 30 | 20 | 11 | 37                    |
| 50       | D              | 74                       | 46 | 30 | 20 | 11 | 37                    |
| 22       | C              | 86                       | 62 | 43 | 31 | 26 | 50                    |
| 22       | C              | 86                       | 62 | 43 | 31 | 26 | 50                    |
| 17       | C              | 86                       | 62 | 43 | 31 | 26 | 50                    |
| 18       | A              | 47                       | 23 | 15 | 12 | 11 | 22                    |
| 19*      | -              | -                        | -  | -  | -  | -  | -                     |
| 20       | D              | 73                       | 50 | 35 | 25 | 19 | 41                    |
| 22       | A              | 48                       | 26 | 17 | 11 | 7  | 22                    |
| 62       | B              | 80                       | 64 | 58 | 55 | 50 | 62                    |
| 21       | B              | 80                       | 64 | 58 | 55 | 50 | 62                    |
| 22       | A              | 48                       | 26 | 17 | 11 | 7  | 22                    |
| 23       | E              | 50                       | 26 | 17 | 12 | 7  | 23                    |
| 23       | E              | 50                       | 26 | 17 | 12 | 7  | 23                    |
| 24       | B              | 80                       | 54 | 33 | 18 | 9  | 40                    |
| 25       | B              | 55                       | 26 | 16 | 13 | 9  | 26                    |

\*Although 45 multiple-choice items were administered in Section I, item # 19 was not used in scoring for statistical reasons. Many students who scored well on the exam chose option A or option C, instead of the correct answer E. It is important for teachers to emphasize that when determining the horizontal asymptotes for a graph of  $y = f(x)$ , students must examine the limit of  $f(x)$  as  $x$  approaches infinity and the limit of  $f(x)$  as  $x$  approaches negative infinity.