

# TEACHER QUESTIONNAIRE

## Advanced Placement Program® Study

### AP® Calculus AB

The College Board Advanced Placement Program is conducting an important study to identify factors that enhance the success of under-represented minority (African American and Hispanic) students in AP courses. The study is being conducted by Educational Testing Service ® (ETS®).

Your school has been identified as serving a significant number of African American and Hispanic students in AP Calculus AB and/or AP English Literature and Composition. We are extremely interested in learning more about the teaching in these courses and about you as the AP teacher. In this questionnaire, you will be asked some background questions and about instruction in your AP classes.

Only you can provide information about the instruction your students receive, and your answers are very important. **The information you provide is being collected for research purposes only and will be kept strictly confidential. Although you are very busy, we urge you to complete this questionnaire as accurately as possible. Your responses to these questions are needed to help us identify and communicate ways to improve preparation, recruitment, and instruction of under-represented minority students in AP.**

### Instructions

This questionnaire contains four parts:

- A. Teacher Background Information
- B. Mathematics Preparation
- C. Mathematics Instruction Information
- D. Policies and Practices for AP

**Please complete all parts of the questionnaire and record your answers directly on the questionnaire by providing the information requested as it applies to you/your classes. You will also find class rosters with each student in your school who took the AP Calculus AB exam in 1997 and 1998. Please provide the information requested for your students according to the instructions attached to the roster. Please call Barbara Bruschi at (609) 734-5943 ([bbruschi@ets.org](mailto:bbruschi@ets.org)) or Mario Yepes-Baraya at (609) 734-5357 ([myepes@ets.org](mailto:myepes@ets.org)) with any questions.**

**Please return your completed questionnaire and your class rosters to your PRINCIPAL in the envelope provided. The Principal is collecting all surveys to be returned to ETS by April 23.**

**THANK YOU VERY MUCH.**

Name (AP Calculus AB Teacher): \_\_\_\_\_  
Phone: \_\_\_\_\_  
E-Mail address: \_\_\_\_\_  
Fax Number: \_\_\_\_\_

### A. Background, Education, and Resources

- A1. What is your gender? (Circle one.)
- a. Male
  - b. Female
- A2. Which best describes you? (Circle one.)
- a. American Indian or Alaskan Native
  - b. Asian or Pacific Islander
  - c. Black/African American (non-Hispanic)
  - d. Hispanic (regardless of race)
  - e. White (non-Hispanic)
  - f. Other (Specify): \_\_\_\_\_
- A3. In which of the following years did you teach AP Calculus AB? (Circle all that apply.)
- a. 1998-99
  - b. 1997-98
  - c. 1996-97
  - d. I no longer teach AP course(s).
- A4. Counting this year, how many years in total (including part-time teaching) have you taught high school mathematics? (Circle one.)
- a. 2 years or less
  - b. 3-5 years
  - c. 6-10 years
  - d. 11-24 years
  - e. 25 years or more
- A5. Counting this year, how many years have you taught AP Calculus AB? (Circle one.)
- a. 2 years or less
  - b. 3-5 years
  - c. 6-10 years
  - d. 11-24 years
  - e. 25 years or more

A6. What type of teaching certificate in mathematics do you have in your state? (Circle one.)

- a. Permanent certificate
- b. Advanced professional certificate
- c. Temporary, provisional, or emergency state certificate
- d. I do not have a certificate in mathematics.
- e. Other (Specify): \_\_\_\_\_

A7. What is the highest academic degree you hold? (Circle one.)

- a. Bachelor's degree
- b. Master's degree
- c. Education specialist or professional diploma based on at least one year's work past master's degree
- d. Doctorate
- e. Professional degree (e.g., M.D., LL.B., J.D., D.D.S.)

A8. When was your most recent degree awarded? (Circle one.)

- a. Within the last year
- b. 2-4 years ago
- c. 5-10 years ago
- d. 11-20 years ago
- e. 21 years ago or more

A9. What were your undergraduate major and minor fields of study? (Check each box that applies.)

	<b>Major</b>	<b>Minor</b>
a. Mathematics, Physical Sciences, Computer Science, or Engineering	<input type="checkbox"/>	<input type="checkbox"/>
b. Mathematics Education	<input type="checkbox"/>	<input type="checkbox"/>
c. Science Education	<input type="checkbox"/>	<input type="checkbox"/>
d. Education (including elementary, secondary, special, bilingual or ESL, counseling)	<input type="checkbox"/>	<input type="checkbox"/>
e. Other area related to teaching mathematics (Specify):	<input type="checkbox"/>	<input type="checkbox"/>
f. All other (Specify):	<input type="checkbox"/>	<input type="checkbox"/>

A10. What were your graduate major fields of study? (Check one box for each graduate degree.)

**Degree 1    Degree 2    Degree 3**

- |  |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|
| a. <u>No graduate level study</u>  | <input type="checkbox"/> |                          |                          |
| b. <u>Mathematics, Physical Sciences,<br/>Computer Sciences or Engineering</u>         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. <u>Mathematics Education</u>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. <u>Science Education</u>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. <u>Education (elementary, secondary,<br/>special, bilingual or ESL, counseling)</u> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. <u>Other area related to teaching<br/>mathematics (Specify):</u>                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. <u>All other (Specify):</u>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

A11. How often do you attend AP workshops? (Circle one.)

- a. Once or twice a year
- b. Every 2 or 3 years
- c. Every 4 or 5 years
- d. Infrequently (6 or more years)
- e. I have never attended an AP workshop.

A12. How often do you attend AP summer institutes? (Circle one.)

- a. Once a year
- b. Every 2 or 3 years
- c. Every 4 or 5 years
- d. Infrequently (6 or more years)
- e. I have never attended an AP summer institute.

A13. When did you last attend an AP summer institute? (Circle one.)

- a. Within the last year
- b. 2 to 4 years ago
- c. 5 years ago or more
- d. I have never attended an AP summer institute.

A14. What type of support is provided for you to participate in the following? (Circle all that apply.)

**AP workshop**

- a. None
- b. Released time
- c. Fee for workshop
- d. Expenses for workshops
- e. Other (Specify): \_\_\_\_\_

**AP summer institute**

- f. None
- g. Released time
- h. Fee for institute
- i. Expenses for institute
- j. Other (Specify): \_\_\_\_\_

A15. Which of the following statements is true about the extent to which your school provides you with the instructional materials and other resources you need to teach your AP class(es)? (Circle one.)

- a. I get all the resources that I need.
- b. I get most of the resources that I need.
- c. I get some of the resources that I need.
- d. I don't get any of the resources that I need.

A16. How often do you incur out-of-pocket costs for instructional materials and other resources for your AP class(es)? (Circle one.)

- a. Weekly
- b. Monthly
- c. Three or four times each year
- d. Once or twice each year
- e. Hardly ever or never

A17. Which of the following resource people do you find useful to you in teaching your AP Calculus AB class(es)? (Circle all that apply.)

- a. Other AP teacher(s)
- b. Other teacher(s)
- c. Department chair
- d. Principal
- e. District curriculum specialist
- f. Other (Specify): \_\_\_\_\_
- g. None

- A18. Which, if any, of the following technology do you use in school to prepare to teach your AP class(es)? (Circle all that apply.)
- a. I do not have access to a computer.
  - b. I do not have access to a computer in school.
  - c. E-mail
  - d. AP listserves
  - e. Chatrooms
  - f. Internet/World-wide webs
  - g. Other (Specify): \_\_\_\_\_
  - h. None
- A19. How many school hours per week do you currently have designated as in-school preparation time for your AP class(es)? (Circle one.)
- a. None
  - b. Preparation time for AP class(es) part of overall preparation time
  - c. Less than 1 hour
  - d. 1-2 hours
  - e. 3-4 hours
  - f. 5 hours or more
- A20. How many additional hours do you currently spend outside of school on preparation for your AP class(es) per week? (Circle one.)
- a. None
  - b. Less than 1 hour
  - c. 1-2 hours
  - d. 3-4 hours
  - e. 5 hours or more
- A21. Are you involved in team teaching in your AP course(s)? (Circle one.)
- a. No
  - b. Yes
- A22. Are you involved in joint preparation time with another teacher teaching Calculus in your school? (Circle one.)
- a. No
  - b. Yes

## B. Mathematics Preparation

B1. What level of academic preparation have you had in each of the following mathematics topics or areas? (Check all that apply for each letter below.)

	Little or No Academic Preparation	Part of a College or University Course	One or More College or University Courses	Professional Development Workshops or Seminars
a. <u>College algebra</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <u>Single variable calculus</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <u>Multivariable calculus</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <u>Differential equations</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. <u>Linear algebra</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. <u>Discrete mathematics</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. <u>College geometry/ non-Euclidean geometry</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. <u>Abstract algebra</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. <u>Probability</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. <u>Statistics</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. <u>Introductory real analysis</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. <u>History of mathematics</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B2. During the last three years, what have you done to improve your academic preparation in mathematics? (Circle all that apply.)

- a. No formal workshops or courses
- b. One workshop or seminar
- c. Multiple workshops or seminars
- d. One university course
- e. Multiple university courses

B3. During the last three years, in which of the following areas have you taken courses or participated in professional development activities? (Circle all that apply.)

- a. Use of telecommunications
- b. Use of computers
- c. Use of calculators in secondary school mathematics
- d. Use of computers in secondary school mathematics
- e. Methods of teaching secondary school mathematics
- f. Cooperative group instruction
- g. Interdisciplinary instruction
- h. Teaching higher-order thinking skills
- i. Classroom management and organization
- j. Problem solving in secondary mathematics
- k. Understanding students' thinking about mathematics

(continued on next page)

- l. Testing, student assessment, or evaluation
- m. Portfolio Assessment
- n. Performance-based assessment
- o. Teaching students from different cultural backgrounds
- p. Teaching students who are Limited English Proficient
- q. Teaching students with disabilities
- r. Gender issues in teaching mathematics
- s. Other professional issues (Specify): \_\_\_\_\_
- t. I have not participated in professional development activities or coursework.

B4. What type of support is provided for teachers to participation in **non-AP** workshops or seminars? (Circle all that apply.)

- a. None
- b. Released time
- c. Fee for workshop or seminar
- d. Expenses for workshop or seminar
- e. Other (Specify): \_\_\_\_\_

B5. How prepared did you feel when you *first* started to teach AP Calculus AB course(s)? (Circle one letter for each section below.)

**Knowledge of Subject**

- a. Very well prepared
- b. Well prepared
- c. Somewhat prepared
- d. Not prepared

**Knowledge of AP Program and Exam**

- e. Very well prepared
- f. Well prepared
- g. Somewhat prepared
- h. Not prepared

B6. How prepared do you feel *now* to teach your AP Calculus AB course(s)? (Circle one letter for each section below.)

**Knowledge of Subject**

- a. Very well prepared
- b. Well prepared
- c. Somewhat prepared
- d. Not prepared

**Knowledge of AP Program Exam**

- e. Very well prepared
- f. Well prepared
- g. Somewhat prepared
- h. Not prepared

B7. How closely aligned do you feel the AP Calculus AB curriculum provided by the AP Program is with the curriculum standards used in your department/school/district/state? (Circle one.)

- a. Not aligned
- b. Somewhat aligned
- c. Closely aligned
- d. Very closely aligned
- e. There are no formal curriculum standards.



## C. AP Mathematics Instruction Information

Please answer these questions about the AP Calculus AB class(es) that you teach.

- C1. How many hours of instructional time do you have to present the complete AP Calculus AB curriculum? \_\_\_\_\_ hours per week for \_\_\_\_\_ weeks
- C2. On average, how much time do you expect students in each class to spend on assignments outside of the classroom *per week*? \_\_\_\_\_
- C3. Over the academic year, how much emphasis have you given to each of the following in your AP Calculus AB class(es)? (Check one box for each letter below.)

### Topics

#### Functions:

	Little or No Emphasis	Moderate Emphasis	Heavy Emphasis
a. <u>Analysis of graphs</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <u>Limits of functions</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <u>Asymptotic unbounded behavior</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <u>Continuity as a property of functions</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Derivatives:

	Little or No Emphasis	Moderate Emphasis	Heavy Emphasis
e. <u>Concept of a derivative</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. <u>Derivative at a point</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. <u>Derivative as a function</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. <u>Second derivatives</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. <u>Applications of derivatives</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. <u>Computation of derivatives</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Integrals:

	Little or No Emphasis	Moderate Emphasis	Heavy Emphasis
k. <u>Riemann sums</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. <u>Interpretations and properties of definite integrals</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. <u>Applications of integrals</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. <u>Fundamental Theorem of Calculus</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. <u>Techniques of antidifferentiation</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. <u>Applications of antidifferentiation</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. <u>Numerical approximations to definite integrals</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Skills:**

	Little or No Emphasis	Moderate Emphasis	Heavy Emphasis
r. Learning mathematical facts and concepts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. Learning skills and procedures needed to solve routine problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. Exploring functions using multiple representations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
u. Developing reasoning and analytical ability to solve unique problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. Learning how to communicate ideas in mathematics effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
w. Data exploration and analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
x. Building and applying mathematical models	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C4. In your AP Calculus AB instruction, how often do you do each of the following? (Check one box for each letter below.)

	Never or Hardly Ever	Once or Twice a Month	Once or Twice a Week	Almost Every Day
a. Use mathematical modeling as the principal strategy for learning precalculus material	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Use problem solving as a means of investigating important mathematical concepts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Promote student interaction and discussion using inquiry-based techniques	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Use students' interests and background experiences to make connections to mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Develop students' ability to make connections among mathematical topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Develop students' ability to make connections between mathematics and other disciplines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Use the results of classroom assessments to inform instructional decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- C5. How often have students in your AP class done each of the following? (Check one box for each letter below.)

	Never or Hardly Ever	Once or Twice a Month	Once or Twice a Week	Almost Every Day
a. Done mathematics problems from their <u>text books</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Done mathematics problems from <u>supplementary materials</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Worked with physical models or <u>manipulatives</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <u>Used a graphing calculator</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. <u>Used a computer</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. <u>Taken mathematics quizzes or tests</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. <u>Taken some alternative assessment</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Been asked to apply mathematical <u>knowledge to real world situations</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Worked in pairs or small groups <u>to solve mathematical problems</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Written a few sentences about a <u>mathematics problem or its solution</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Presented their mathematical work to <u>the class</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Written reports or done mathematical <u>projects</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- C6. In your AP Calculus AB class, how much emphasis do you place on your students doing each of the following? (Check one box for each letter below.)

	Little or No Emphasis	Moderate Emphasis	Heavy Emphasis
a. <u>Working together to make sense of mathematics</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <u>Taking the initiative to check their work</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Thinking about what a problem means <u>and ways in which it might be solved</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <u>Inventing and solving their own problems</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. <u>Applying mathematics to real-life problems</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- C7. Do you permit students in your AP class(es) to use graphing calculators for quizzes and tests? (Circle one.)

- No
- Yes, for all tests and quizzes
- Yes, for some tests and quizzes

- C8. Which best describes the availability of graphing calculators for use by students in your class(es)? (Circle one.)
- a. No graphing calculators are available.
  - b. One within the classroom
  - c. Fewer than six in the classroom
  - d. A complete class set is available for use by all students.
  - e. Some students have their own graphing calculators.
  - f. Most students have their own graphing calculator.
  - g. All students have their own graphing calculator.
- C9. What is the primary use of graphing calculators in your AP class(es)? (Circle one.)
- a. I do not use graphing calculators for instruction.
  - b. Calculating numerical answers
  - c. Graphing functions
  - d. Spreadsheets or tables
  - e. Statistical graphs
  - f. Symbolic manipulations
  - g. Estimation
- C10. Which best describes the availability of computers for use by students in your class(es)? (Circle one.)
- a. No computers are available.
  - b. One within the classroom
  - c. Two or three within the classroom
  - d. Four or more within the classroom
  - e. Available in a computer laboratory but difficult to access or schedule
  - f. Available in a computer laboratory and easy to access or schedule
  - g. All students have their own computer.
- C11. What is your primary use of computers for mathematical instruction? (Circle one.)
- a. I do not use computers for instruction.
  - b. Calculating numerical answers
  - c. Graphing functions
  - d. Spreadsheets or tables
  - e. Statistical graphs
  - f. Symbolic manipulations
  - g. Estimation

C12. How often do you use each of the following to assess students' progress in your AP Calculus AB class(es)? (Check one box for each letter below.)

	Never or Hardly Ever	Once or Twice a Year	Once or Twice a Month	Once or Twice a Week
a. <u>In-class exams</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <u>Take-home exams</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <u>Individual or group projects or presentations</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <u>Portfolio collections of each student's work</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. <u>Multiple choice tests</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. <u>In-class participation in discussion</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. <u>Problem sets</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. <u>Written solutions and explanations on task sets</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C13. How often do you provide each of the following types of feedback to students? (Check one box for each letter below.)

	Never or Hardly Ever	Monthly	Bi-Weekly	Weekly	Daily
a. <u>Letter grade</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <u>Written comments</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <u>Verbal comments</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <u>Other (Specify):</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C14. How do you communicate students' progress to parents? (Circle all that apply.)

- a. Formal mid-term progress report
- b. Report card
- c. Parent-Teacher conference initiated by teacher
- d. Parent- Teacher conference initiated by parent (or student)
- e. Written note
- f. Phone call
- g. Other (Specify): \_\_\_\_\_

C15. How confident do you feel about each of the following? (Check one box for each letter below.)

	Relatively Little or No Confidence	Somewhat Confident	Very Confident
a. <u>Teaching AP Calculus course skills</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <u>Communicating AP mathematical content skills to students with different levels of mathematical preparation</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <u>Using a wide variety of course-related instructional methods</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <u>Using course-related technology to teach mathematical concepts (e.g., graphing calculators, computers)</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C16. In your opinion, how effective was your AP Calculus AB course in doing each of the following? (Check one box for each letter below.)

	Poor	Fair	Good	Very Good	Excellent
a. <u>Increasing students' general interest and motivation in learning mathematics</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <u>Increasing students' verbal communication skills in mathematics</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <u>Increasing students' writing skills in mathematics</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <u>Preparing students for a college calculus course</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. <u>Increasing students' confidence in mathematics</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. <u>Increasing students' confidence about attending college</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### D. Policies and Practices for AP

D1. Which of the following are considered when recruiting new AP teachers? (Circle all that apply.)

- a. Teacher interest
- b. Teacher's schedule availability
- c. Degree in the subject area
- d. Experience in the subject area
- e. Other (Specify): \_\_\_\_\_

D2. Who was involved in your selection to teach AP Calculus AB? (Circle all that apply.)

- a. Principal decision
- b. Teacher initiated
- c. Department chair recommended
- d. Another teacher recommended
- e. Other (Specify): \_\_\_\_\_

D3. *For the student body as a whole*, how would you characterize each of the following within your school? (Indicate the percent in each category for each letter below.)

	Poor	Average	Good	Excellent
a. Students' academic background upon arrival in high school	%	%	%	%
b. Students' attitude toward academic achievement in general	%	%	%	%
c. Students' regard for school property	%	%	%	%
d. Students' aspirations to attend college	%	%	%	%
e. Academic preparation of students who take AP classes	%	%	%	%
f. Parents' level of education	%	%	%	%
g. Parents' support for student achievement	%	%	%	%
h. Parents' understanding/ support of AP	%	%	%	%
i. Preliminary courses provided by school to prepare students for AP	%	%	%	%

D4. *For African American and Hispanic students*, how would you characterize each of the following within your school? (Indicate the percent in each category for each letter below.)

	Poor	Average	Good	Excellent
a. Students' academic background upon arrival in high school	%	%	%	%
b. Students' attitude toward academic achievement in general	%	%	%	%
c. Students' regard for school property	%	%	%	%
d. Students' aspirations to attend college	%	%	%	%
e. Academic preparation of students who take AP classes	%	%	%	%
f. Parents' level of education	%	%	%	%
g. Parents' support for student achievement	%	%	%	%
h. Parents' understanding/ support of AP	%	%	%	%
i. Preliminary courses provided by school to prepare students for AP	%	%	%	%

- D5. Indicate which, if any, of the following policies, practices or strategies are used at your school to prepare prospective students to succeed in AP. (Circle all that apply.)
- a. No specific preparation
  - b. Students complete a specified course sequence in a given subject matter
  - c. Students complete an honors course(s)
  - d. Students attend preparatory summer workshop or course
  - e. Other (Specify): \_\_\_\_\_
- D6. How are teachers in your school made aware of AP course offerings and requirements? (Circle all that apply.)
- a. AP teacher(s)
  - b. Other teacher(s)
  - c. Principal
  - d. Formal in-service
  - e. Other (Specify): \_\_\_\_\_
- D7. About which of the following do you communicate with other teachers teaching 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> grade students? (Circle all that apply.)
- a. AP Program offerings
  - b. Student skills necessary for AP Program/courses
  - c. Identifying promising students for AP courses
  - d. Identifying promising African American and Hispanic students for AP courses
  - e. None of the above
- D8. How do you make students aware of the AP course offerings? (Circle all that apply.)
- a. Speak with students in my classes
  - b. Speak with students in other classes
  - c. Speak about the AP Program as part of a student assembly
  - d. Speak about the AP Program as part of a parents' back to school night/assembly
  - e. Mailings/Newsletters to students
  - f. Mailings/Newsletters to parents
  - g. Other (Specify): \_\_\_\_\_
- D9. Are there any special efforts you use to make *African American and Hispanic students* aware of the AP course offerings and requirements? (Circle one.)
- a. No
  - b. Yes (Briefly describe): \_\_\_\_\_

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Use space at the end of the questionnaire for any additional comments.



D10. Are there any special efforts you use to attract or recruit *African American and Hispanic students* to AP courses? (Circle one.)

a. No

b. Yes (Briefly describe): \_\_\_\_\_

Use space at the end of the questionnaire for any additional comments.

D11. In your experience, which of the following are the major factors that consistently help you to identify students who will succeed in AP Calculus AB? (Circle all that apply.)

a. Grades

b. Teacher recommendations

c. PSAT scores

d. Other standardized test scores

e. Student interest

f. Parent interest

g. Previous courses taken

h. Special honors courses taken

i. Writing sample

j. Interview

k. Other (Specify): \_\_\_\_\_

D12. Specify two of the factors listed above that you consider most important. (Circle two letters below.)

a      b      c      d      e      f      g      h      i      j      k

D13. In your experience, which of the following are the major factors that consistently help you to identify *African American and Hispanic students* who will succeed in AP Calculus AB? (Circle all that apply.)

a. Grades

b. Teacher recommendations

c. PSAT scores

d. Other standardized test scores

e. Student interest

f. Parent interest

g. Previous courses taken

h. Special honors courses taken

i. Writing sample

j. Interview

k. Other (Specify): \_\_\_\_\_

D14. Specify two of the factors listed above that you consider most important. (Circle two letters below.)

a      b      c      d      e      f      g      h      i      j      k

D15. Do you use any special methods to select *African American and Hispanic students* for your AP course(s)? (Circle one.)

a. No

b. Yes (Briefly describe): \_\_\_\_\_

Use space at the end of the questionnaire for additional comments.

D16. What have been the trends over the last three years with regard to *students in general* in your AP Calculus AB class(es)? (Check one box for each letter below.)

**Decreased    Not Changed    Increased**

- |   |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|
| a. Number of student inquiries about your AP class(es)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Number of students enrolling in your AP class(es)    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Number of students dropping out of your AP class(es) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

D17. What have been the trends over the last three years with regard to *African American and Hispanic students* in your AP Calculus AB class(es)? (Check one box for each letter below.)

**Decreased    Not Changed    Increased**

- |   |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|
| a. Number of student inquiries about your AP class(es)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Number of students enrolling in your AP class(es)    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Number of students dropping out of your AP class(es) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- D18. What, if any, academic support outside of class do you offer to students taking your AP course(s)? (Circle all that apply).
- a. None outside of class time
  - b. One-to-one tutoring by AP teacher
  - c. Group tutoring by AP Teacher
  - d. Tutoring by another mathematics teacher
  - e. Peer tutoring
  - f. Student study groups
  - g. Other (Specify): \_\_\_\_\_
- D19. What is done in your class to prepare students for the AP examination? (Circle all that apply.)
- a. Preparation time during regular course work
  - b. Complete course work one to two months early and use the remainder of the time for preparation for the exam
  - c. Use sample AP exam questions throughout the school year
  - d. Administer one or more practice tests before the exam date
  - e. Other (Specify): \_\_\_\_\_
- D20. Describe any particularly effective strategies you use to motivate *African American and Hispanic* students in your AP class(es).
- D21. Describe any intervention strategies you have found particularly effective in helping *African American and Hispanic students* persist in your AP class(es).
- D22. Describe any strategies you have found particularly effective in helping *African American and Hispanic students* succeed in your AP class(es).

D23. Which best describes your practice regarding students taking the AP examination? (Circle one)

- a. I encourage those students I feel likely to get a 3 or higher to take the exam.
- b. I leave the decision to the student.
- c. All students in the class take the AP examination.
- d. Other (Specify): \_\_\_\_\_

D24. How important is each of the following student outcomes in terms of your goals for students taking your AP class(es)? (Check one box for each letter below.)

	Very Low	Low	Moderate	High	Very High
a. Student earns a score of 3 or better on the AP examination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Student experiences college-level work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Student builds confidence in subject area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Student becomes more interested in subject area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Student's chances of college admission are improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Student gains confidence that they can succeed in college	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Other (Specify): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D25. Describe any changes you would like to see in your school's policies or practices regarding AP that you feel would improve your effectiveness in teaching *African American and Hispanic students*.

Additional Comments:

**PLEASE RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED TO YOUR PRINCIPAL FOR RETURN MAILING TO ETS. THANK YOU AGAIN FOR YOUR HELP.**