Practice Test 1

AP® Calculus BC Exam

SECTION I: Multiple-Choice Questions

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

At a Glance

Total Time
1 hour and 45 minutes
Number of Questions
45
Percent of Total Grade
50%
Writing Instrument
Pencil required

Instructions

Section I of this examination contains 45 multiple-choice questions. Fill in only the ovals for numbers 1 through 45 on your answer sheet.

CALCULATORS MAY NOT BE USED IN THIS PART OF THE EXAMINATION.

Indicate all of your answers to the multiple-choice questions on the answer sheet. No credit will be given for anything written in this exam booklet, but you may use the booklet for notes or scratch work. After you have decided which of the suggested answers is best, completely fill in the corresponding oval on the answer sheet. Give only one answer to each question. If you change an answer, be sure that the previous mark is erased completely. Here is a sample question and answer.

Sample Question	Sample Answer
Chicago is a (A) state (B) city (C) country (D) continent	Ⓐ ● Ⓒ Ⓓ

Use your time effectively, working as quickly as you can without losing accuracy. Do not spend too much time on any one question. Go on to other questions and come back to the ones you have not answered if you have time. It is not expected that everyone will know the answers to all the multiple-choice questions.

About Guessing

Many candidates wonder whether or not to guess the answers to questions about which they are not certain. Multiple choice scores are based on the number of questions answered correctly. Points are not deducted for incorrect answers, and no points are awarded for unanswered questions. Because points are not deducted for incorrect answers, you are encouraged to answer all multiple-choice questions. On any questions you do not know the answer to, you should eliminate as many choices as you can, and then select the best answer among the remaining choices.

CALCULUS BC

SECTION I, Part A

Time—60 Minutes

Number of questions—30

A CALCULATOR MAY NOT BE USED ON THIS PART OF THE EXAMINATION

Directions: Solve each of the following problems, using the available space for scratchwork. After examining the form of the choices, decide which is the best of the choices given and fill in the corresponding oval on the answer sheet. No credit will be given for anything written in the test book. Do not spend too much time on any one problem.

In this test: Unless otherwise specified, the domain of a function f is assumed to be the set of all real numbers x for which $f(x)$ is a real number.

1. Evaluate $\int_1^{\infty} 4xe^{-x^2}\,dx$.

   (A) $\frac{2}{e^2}$

   (B) $\frac{2}{e}$

   (C) 2

   (D) The integral diverges.

GO ON TO THE NEXT PAGE.

2. The table below gives some values of a function f and its first three derivatives. What is the third degree Taylor Polynomial for f about $x = 1$?

X	$f(x)$	$f'(x)$	$f''(x)$	$f'''(x)$
0	5	3	1	2
1	1	2	4	18
2	3	7	16	32

(A) $3x^3 + 7x^2 + 16x + 32$

(B) $3x^3 + 7x^2 + 7x + 2$

(C) $3x^3 - 7x^2 + 7x - 2$

(D) $3x^3 - 7x^2 + 16x - 32$

---

3. Which of the following is true about the series $\sum_{n=1}^{\infty} \frac{(-1)^n}{n!}$?

(A) The series converges conditionally.

(B) The series diverges.

(C) The series converges absolutely.

(D) None of the above.

GO ON TO THE NEXT PAGE.

4. The position of a particle is given by the parametric equations $x(t)=8\sqrt{3t+1}$ and $y(t)=9\sqrt[3]{t^2+2}$. Find the slope of the tangent line to the path of the particle at the time t = 5 seconds.

(A) 30

(B) 10

(C) $\frac{10}{3}$

(D) $\frac{10}{9}$

---

5. Evaluate $\int \frac{9x-13}{(x-1)(x-3)}dx$.

(A) $9\ln|x-1|+16\ln|x-3|+C$

(B) $2\ln|x-1|+7\ln|x-3|+C$

(C) $7\ln|x-1|+2\ln|x-3|+C$

(D) $9\ln|x-1|-16\ln|x-3|+C$

GO ON TO THE NEXT PAGE.

6. Which of the following equations gives the length of the curve $f(x) = 6\sin(2x)$ from $x = 0$ to $x = 4$?

(A) $\int_0^4 \sqrt{1+36\sin^2(2x)}\,dx$

(B) $\int_0^4 \sqrt{1+144\sin^2(2x)}\,dx$

(C) $\int_0^4 \sqrt{1+36\cos^2(2x)}\,dx$

(D) $\int_0^4 \sqrt{1+144\cos^2(2x)}\,dx$

---

7. Which of the following is the particular solution to $\frac{dy}{dx} = 3x + e^{2x}$ with the initial condition $y(0) = 5$?

(A) $\frac{3x^2}{2} + \frac{e^{2x}}{2} + \frac{9}{2}$

(B) $\frac{3x^2}{2} + \frac{e^{2x}}{2} + \frac{11}{2}$

(C) $\frac{3x^2}{2} + \frac{e^{2x}}{2} + 3$

(D) $\frac{3x^2}{2} + \frac{e^{2x}}{2} - \frac{9}{2}$

GO ON TO THE NEXT PAGE.

8. Let $y = f(x)$ be the solution of the differential equation $\frac{dy}{dx} = 6y - 2$ with the initial condition $f(0) = 2$. Use Euler's Method to approximate $f(1)$ starting at $x = 0$ with the step size of 0.5.

(A) 7
(B) 10
(C) 22
(D) 40

---

9. Evaluate $\int 3x \sin\left(\frac{x}{3}\right) dx$.

(A) $-9x\cos\left(\frac{x}{3}\right) + C$

(B) $-9x\cos\left(\frac{x}{3}\right) + 27x\sin\left(\frac{x}{3}\right) + C$

(C) $-9x\cos\left(\frac{x}{3}\right) - 27x\sin\left(\frac{x}{3}\right) + C$

(D) $-x\cos\left(\frac{x}{3}\right) + C$

GO ON TO THE NEXT PAGE.

10. Find the area between the curve $y = 6x - x^2$ and the x-axis.

(A) 324
(B) 180
(C) 72
(D) 36

---

11. Find $\frac{dy}{dx}$ if $y = \cos^4 x$.

(A) $-4\sin^3 x$
(B) $4\sin^3 x$
(C) $-4\cos^3 x \sin x$
(D) $4\cos^3 x \sin x$

---

12. If R is the region between the curves $y = x^2 - 4x$ and $y = x + 6$, find the area of R.

(A) $48\frac{1}{6}$
(B) $50\frac{1}{6}$
(C) $50\frac{5}{6}$
(D) $54\frac{1}{6}$

GO ON TO THE NEXT PAGE.

13. The MacLaurin series for the function f is given by $f(x)=\sum_{n=0}^{\infty}\left(\frac{x}{5}\right)^n$. What is the value of $f(2)$?

(A) 0

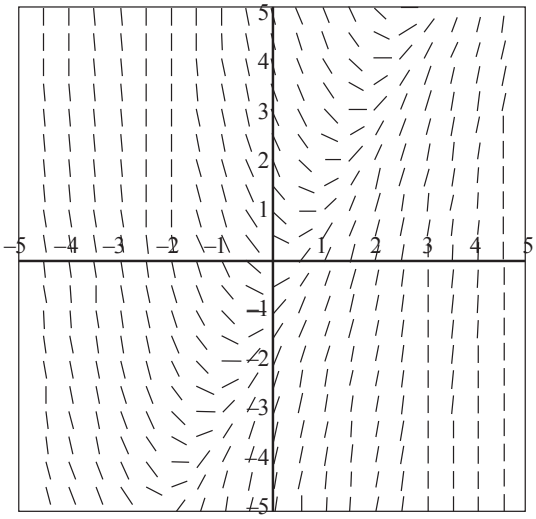
(B) $\frac{5}{7}$

(C) 1

(D) $\frac{5}{3}$

---

14. Which of the following is the differential equation of the slope field below?



(A) $\frac{dy}{dx}=2x+y$

(B) $\frac{dy}{dx}=2x-y$

(C) $\frac{dy}{dx}=x^2+y$

(D) $\frac{dy}{dx}=x^2-y$

GO ON TO THE NEXT PAGE.

15. A curve is defined by the parametric equations $x = t^4 - t^2 + 1$ and $y = t^3$. Which of the following is the equation of the line tangent to the graph at (13, 8)?

(A) $7x - 3y = -17$

(B) $3x - 7y = 17$

(C) $7x - 3y = 17$

(D) $3x - 7y = -17$

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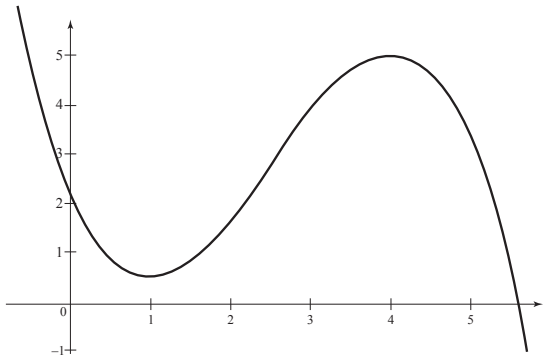
16. The graph of the function f is shown below.



If $g(x) = \int_5^{3x} f(t)\,dt$, what is $g'(1)$?

(A) 0

(B) 3

(C) 20

(D) 27

GO ON TO THE NEXT PAGE.

17. The sum of the infinite geometric series $5+\frac{10}{\pi}+\frac{20}{\pi^2}+\frac{40}{\pi^3}+\ldots$ is

(A) $\frac{5\pi}{\pi-2}$

(B) $\frac{5}{\pi-2}$

(C) $\frac{5\pi}{\pi+2}$

(D) $\frac{5}{\pi+2}$

---

18. The average value of $\frac{4}{1+x^2}$ on the interval [0, 1] is

(A) π

(B) 2π

(C) 4π

(D) 16π

GO ON TO THE NEXT PAGE.

19. The function f is given by $f(x) = 9x^4 - 8x^3 - 96x^2 + 10$. On which of the following intervals is f increasing?

(A) $(-\infty, -2)$

(B) $(0, 2)$

(C) $\left(2, \frac{8}{3}\right)$

(D) $\left(\frac{8}{3}, \infty\right)$

---

20. What are all values of x for which $\frac{(x-1)^k}{k(4^k)}$ converges?

(A) $-3 < x < 5$

(B) $-3 \le x \le 5$

(C) $-3 \le x < 5$

(D) The series diverges.

GO ON TO THE NEXT PAGE.

21. Find the area between the polar curves $r = \cos\theta$ and $r = 2\cos\theta$ from $\theta = 0$ to $\theta = 2\pi$.

(A) $\frac{\pi}{4}$

(B) $\frac{\pi}{2}$

(C) $\frac{3\pi}{4}$

(D) $\frac{3\pi}{2}$

---

22. Evaluate $\int_3^4 \frac{dx}{(x-3)^2}$.

(A) –1

(B) 0

(C) ln 4

(D) Divergent

---

23. A car is accelerating at $20\frac{\text{m}}{\text{s}^2}$ from an initial velocity of $10\frac{\text{m}}{\text{s}}$. How far does the car travel in the first six seconds?

(A) 120 m

(B) 130 m

(C) 420 m

(D) 780 m

GO ON TO THE NEXT PAGE.

24. The value of c that satisfies the Mean Value Theorem for Derivatives on the interval [3, 4] for the function $f(x) = x + \frac{1}{x}$ is

(A) $-\sqrt{12}$

(B) -1

(C) 1

(D) $\sqrt{12}$

---

25. For $x > 0$, the power series $x + x^2 + \frac{x^3}{2!} + \frac{x^4}{3!} + \ldots + \frac{x^n}{(n-1)!} + \ldots$ converges to which of the following?

(A) xe^x

(B) $\frac{e^x}{x}$

(C) e^{x^2}

(D) The series does not converge.

END OF PART A, SECTION I

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON PART A ONLY.

DO NOT GO ON TO PART B UNTIL YOU ARE TOLD TO DO SO.

CALCULUS BC

SECTION I, Part B

Time—45 Minutes

Number of questions—15

A GRAPHING CALCULATOR IS REQUIRED FOR SOME QUESTIONS ON THIS PART OF THE EXAMINATION

Directions: Solve each of the following problems, using the available space for scratchwork. After examining the form of the choices, decide which is the best of the choices given and fill in the corresponding oval on the answer sheet. No credit will be given for anything written in the test book. Do not spend too much time on any one problem.

In this test:

1. The **exact** numerical value of the correct answer does not always appear among the choices given. When this happens, select from among the choices the number that best approximates the exact numerical value.

2. Unless otherwise specified, the domain of a function f is assumed to be the set of all real numbers x for which $f(x)$ is a real number.

26. If $f(x) = x^2 \ln x$, for what value of x is the tangent line horizontal?

(A) $-\frac{1}{2}$

(B) $e^{-\frac{1}{2}}$

(C) 1

(D) $e^{\frac{1}{2}}$

---

27. Approximate the area under $y = \sin x$ from $x = 0$ to $x = 2$, using $n = 4$ right endpoint rectangles.

(A) 0.044
(B) 1.159
(C) 2.318
(D) 4.636

GO ON TO THE NEXT PAGE.

28. The radius of a circle is increasing at $1.5\frac{\text{cm}}{\text{s}}$. How fast is the area increasing when $r = 4$ cm?

(A) 7.069
(B) 25.133
(C) 37.699
(D) 75.398

---

29. Evaluate $\lim_{h\to 0}\frac{\ln(4+h)-\ln 4}{h}$.

(A) 0

(B) $\frac{1}{4}$

(C) 4

(D) The limit does not exist.

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30. For what value of x is the slope of the tangent line to $y_1 = 2\sin x$ equal to the slope of the tangent line to $y_2 = \tan x$ on the interval $[0, 2\pi]$?

(A) 0
(B) 0.654
(C) 1.047
(D) There is no value of x.

GO ON TO THE NEXT PAGE.

31. Given $x^3 + 2xy = y^3 + x$, find $\frac{d^2y}{dx^2}$ at (2, 1).

(A) –207
(B) –13
(C) 13
(D) 207

---

32. If $\int_0^4 f(x)dx = 20$ and $\int_4^2 f(x)dx = 11$, then $\int_0^2 f(x)dx = ?$

(A) –31
(B) –9
(C) 9
(D) 31

---

33. Evaluate $\int_1^\infty \frac{dx}{\sqrt[3]{x^5}}$.

(A) $-\frac{3}{2}$

(B) 0

(C) 1

(D) $\frac{3}{2}$

GO ON TO THE NEXT PAGE.

34. Using the Taylor series about $x = 0$ for e^x, approximate $e^{0.2}$ to three decimal places.

(A) 1.220
(B) 1.249
(C) 1.250
(D) 7.389

35. What is the maximum value of $y = \dfrac{\ln x}{x}$ on the interval [1, 5] ?

(A) 0
(B) 0.322
(C) 0.368
(D) 2.718

36. If $f(x) = \dfrac{d}{dx}\displaystyle\int_4^{6x} \sin t\, dt$, find $f(0.1)$.

(A) 0.099
(B) 0.565
(C) 3.388
(D) 6.600

GO ON TO THE NEXT PAGE.

37. Evaluate $\int \sin^3 x \cos^2 x \, dx$.

(A) $\frac{\cos^3 x}{3} - \frac{\cos^5 x}{5} + C$

(B) $-\frac{\cos^3 x}{3} + \frac{\cos^5 x}{5} + C$

(C) $-\frac{\sin^3 x}{3} + \frac{\sin^5 x}{5} + C$

(D) $\frac{\sin^3 x}{3} - \frac{\sin^5 x}{5} + C$

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38. What is the average value of $y = \cos 2x$ on the interval [1, 5] ?

(A) –1.453
(B) –0.363
(C) 0.363
(D) 1.453

---

39. Let R be the region between $y = e^{-x^2}$ and the x-axis from $x = 0$ to $x = 2$. Find the volume of the solid that results when R is revolved about the x-axis.

(A) 1.196
(B) 3.758
(C) 7.516
(D) 14.124

GO ON TO THE NEXT PAGE.

40. Evaluate $\int e^{2x}\cos 2x\,dx$.

(A) $e^{2x}\sin 2x - e^{2x}\cos 2x + C$

(B) $e^{2x}\sin 2x + e^{2x}\cos 2x + C$

(C) $\frac{1}{4}e^{2x}\sin 2x - \frac{1}{4}e^{2x}\cos 2x + C$

(D) $\frac{1}{4}e^{2x}\sin 2x + \frac{1}{4}e^{2x}\cos 2x + C$

---

41. Evaluate $\lim_{x\to 0}\frac{x-\sin x}{e^x-1}$.

(A) 0

(B) 1

(C) $\frac{1}{e}$

(D) The limit does not exist.

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42. The equation of the line normal to the graph of $y = 6^{x^2}$ at $x = 1$ is

(A) $y-6=\frac{1}{12\ln 6}(x-1)$

(B) $y-6=-\frac{1}{12\ln 6}(x-1)$

(C) $y-6=12\ln 6(x-1)$

(D) $y-6=-12\ln 6(x-1)$

GO ON TO THE NEXT PAGE.

43. What is the length of the curve $y = e^{-4x}$ from $x = -1$ to $x = 1$?

(A) 1.056
(B) 1.111
(C) 4.505
(D) 14.571

---

44. Evaluate $\int \frac{dx}{\sqrt{36 - x^2}}$.

(A) $\sin^{-1} 6x + C$

(B) $\sin^{-1} \frac{x}{6} + C$

(C) $\frac{1}{2x}\sqrt{36 - x^2} + C$

(D) $-\frac{1}{2x}\sqrt{36 - x^2} + C$

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45. Evaluate $\int x^3 \sqrt{x^2 - 1}\, dx$.

(A) $\frac{\left(x^2 - 1\right)^{\frac{3}{2}}}{3} + \frac{\left(x^2 - 1\right)^{\frac{5}{2}}}{5} + C$

(B) $\frac{x^4}{4}\left(\frac{2}{3}\left(x^2 - 1\right)^{\frac{3}{2}}\right) + C$

(C) $3x^2\left(-\frac{1}{2}\left(x^2 - 1\right)^{-\frac{1}{2}}\right) + C$

(D) $\frac{x^4}{4} + \frac{2}{3}\left(x^2 - 1\right)^{\frac{3}{2}} + C$

STOP

END OF PART B, SECTION I

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON PART B ONLY. DO NOT GO ON TO SECTION II UNTIL YOU ARE TOLD TO DO SO.

SECTION II
GENERAL INSTRUCTIONS

You may wish to look over the problems before starting to work on them, since it is not expected that everyone will be able to complete all parts of all problems. All problems are given equal weight, but the parts of a particular problem are not necessarily given equal weight.

A GRAPHING CALCULATOR IS REQUIRED FOR SOME PROBLEMS OR PARTS OF PROBLEMS ON THIS SECTION OF THE EXAMINATION.

- You should write all work for each part of each problem in the space provided for that part in the booklet. Be sure to write clearly and legibly. If you make an error, you may save time by crossing it out rather than trying to erase it. Erased or crossed-out work will not be graded.
- Show all your work. You will be graded on the correctness and completeness of your methods as well as your answers. Correct answers without supporting work may not receive credit.
- Justifications require that you give mathematical (noncalculator) reasons and that you clearly identify functions, graphs, tables, or other objects you use.
- You are permitted to use your calculator to solve an equation, find the derivative of a function at a point, or calculate the value of a definite integral. However, you must clearly indicate the setup of your problem, namely the equation, function, or integral you are using. If you use other built-in features or programs, you must show the mathematical steps necessary to produce your results.
- Your work must be expressed in standard mathematical notation rather than calculator syntax. For example, $\int_1^5 x^2\,dx$ may not be written as fnInt (X^2, X, 1, 5).
- Unless otherwise specified, answers (numeric or algebraic) need not be simplified. If your answer is given as a decimal approximation, it should be correct to three places after the decimal point.
- Unless otherwise specified, the domain of a function f is assumed to be the set of all real numbers x for which $f(x)$ is a real number.

SECTION II, PART A
Time—30 minutes
Number of problems—2

A graphing calculator is required for some problems or parts of problems.

During the timed portion for Part A, you may work only on the problems in Part A.

On Part A, you are permitted to use your calculator to solve an equation, find the derivative of a function at a point, or calculate the value of a definite integral. However, you must clearly indicate the setup of your problem, namely the equation, function, or integral you are using. If you use other built-in features or programs, you must show the mathematical steps necessary to produce your results.

GO ON TO THE NEXT PAGE.

Section II

1. Grain is being loaded into a silo at the rate of $G(t) = 400e^{\frac{-t^2}{4}}$ ft^3/hr, where t is the number of hours that it is being loaded, $0 \le t \le 8$. At time $t = 0$, there is 100 ft^3 of grain in the silo. Grain is also being removed through the base of the silo at the following rates, where $R(t)$ is the amount of grain being removed in ft^3/hr, $0 \le t \le 8$:

t	0	2	5	7	8
$R(t)$	60	90	110	120	125

(a) Estimate the total amount of grain removed from the silo at $t = 8$ hrs, using a left-hand Riemann Sum and 4 subintervals.

(b) Estimate the amount of grain in the silo at the end of 8 hours, using your answer from part (a).

(c) Estimate $R'(5)$, showing your work. Indicate the units of measure.

GO ON TO THE NEXT PAGE.

2. Consider the function given by $f(x) = x^2 e^{-4x}$.

(a) Find $\lim_{x \to \infty} f(x)$.

(b) Find the maximum value of *f*. Justify your answer.

(c) Evaluate $\int_0^{\infty} f(x)dx$, or show that the integral diverges.

GO ON TO THE NEXT PAGE.

SECTION II, PART B
Time—1 hour
Number of problems—4

No calculator is allowed for these problems.

During the timed portion for Part B, you may continue to work on the problems in Part A without the use of any calculator.

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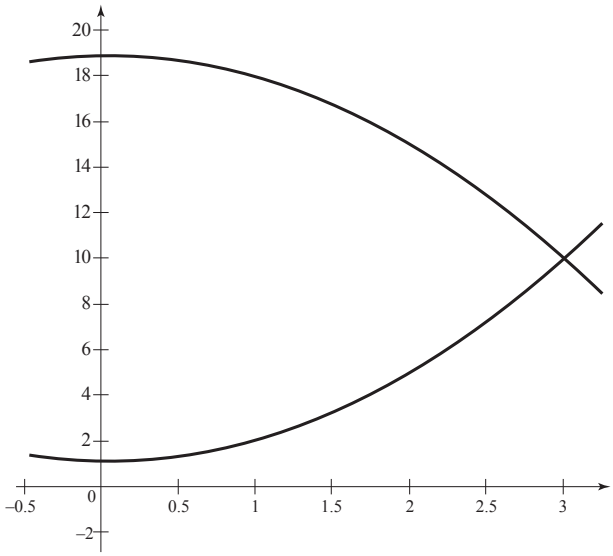
3. Let R be the region in the first quadrant bounded from above by $g(x) = 19 - x^2$ and from below by $f(x) = x^2 + 1$.



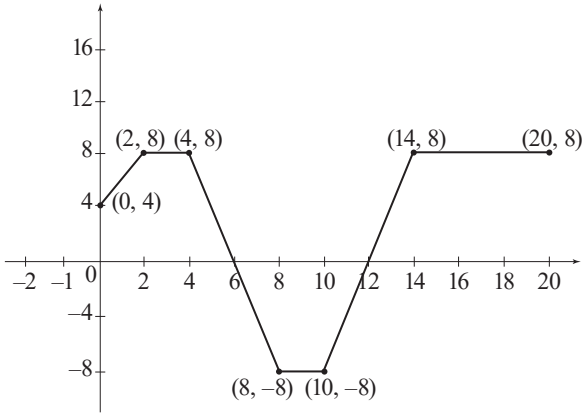
(a) Find the area of R.

(b) A solid is formed by revolving R around the x-axis. Find the volume of the solid.

(c) A solid has its base as the region R, whose cross-sections perpendicular to the x-axis are squares. Find the volume of the solid.

GO ON TO THE NEXT PAGE.

4. A particle begins on the y-axis at the point $(0, 4)$ at time $t = 0$, and travels along a straight line. For $0 \le t \le 20$, the particle's velocity, in ft/sec can be modeled by the piecewise-linear function in the graph below.



(a) At what times in the interval $0 \le t \le 20$ does the particle change direction? Explain your answer.

(b) Find the total distance that the particle travels in the interval $0 \le t \le 20$.

(c) (i) Write an expression for the particle's velocity, $v(t)$, in the time interval $10 < t < 14$.

(ii) Write an expression for the particle's acceleration, $a(t)$, in the time interval $10 < t < 14$.

(d) Write an expression for the particle's distance, $s(t)$, in the time interval $10 < t < 14$.

GO ON TO THE NEXT PAGE.

5. Consider the curve $y^2 + 3xy = 4$.

(a) Find an equation of the tangent line to the curve at the point (1, 1).

(b) Find all x-coordinates where the slope of the tangent line to the curve is undefined.

(c) Evaluate $\frac{d^2y}{dx^2}$ at the point (1, 1).

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6. The function f has derivatives of all orders and the MacLaurin series for f is $\sum_{n=0}^{\infty}(-1)^n \frac{x^{2n}}{2n+2} = \frac{1}{2} - \frac{x^2}{4} + \frac{x^4}{6} - \ldots$

(a) Using the ratio test, determine the interval of convergence for the MacLaurin series for f.

(b) The MacLaurin series for f evaluated at $x = \frac{1}{2}$ is an alternating series whose terms decrease in absolute value to 0. The approximation for $f\left(\frac{1}{2}\right)$ using the first three nonzero terms of this series is $\frac{19}{96}$. Show that this approximation differs from $f\left(\frac{1}{2}\right)$ by less than $\frac{1}{100}$.

(c) Write the first three nonzero terms and the general term of the MacLaurin series for $f'(x)$.

STOP

END OF EXAM

The Princeton Review®

Completely darken bubbles with a No. 2 pencil. If you make a mistake, be sure to erase mark completely. Erase all stray marks.

1.

YOUR NAME: _____
(Print) Last First M.I.

SIGNATURE: _____ DATE: ___/___/___

HOME ADDRESS: _____
(Print) Number and Street

_____
City State Zip Code

PHONE NO.: _____

IMPORTANT: Please fill in these boxes exactly as shown on the back cover of your test book.

2. TEST FORM

3. TEST CODE

4. REGISTRATION NUMBER

3. TEST CODE					4. REGISTRATION NUMBER					
	A	J	0	0	0	0	0	0	0	0
0	B	K	1	1	1	1	1	1	1	1
1	C	L	2	2	2	2	2	2	2	2
2	D	M	3	3	3	3	3	3	3	3
3	E	N	4	4	4	4	4	4	4	4
4	F	O	5	5	5	5	5	5	5	5
5	G	P	6	6	6	6	6	6	6	6
6	H	Q	7	7	7	7	7	7	7	7
7	I	R	8	8	8	8	8	8	8	8
8			9	9	9	9	9	9	9	9
9										

5. YOUR NAME

First 4 letters of last name					FIRST INIT	MID INIT
A	A	A	A		A	A
B	B	B	B		B	B
C	C	C	C		C	C
D	D	D	D		D	D
E	E	E	E		E	E
F	F	F	F		F	F
G	G	G	G		G	G
H	H	H	H		H	H
I	I	I	I		I	I
J	J	J	J		J	J
K	K	K	K		K	K
L	L	L	L		L	L
M	M	M	M		M	M
N	N	N	N		N	N
O	O	O	O		O	O
P	P	P	P		P	P
Q	Q	Q	Q		Q	Q
R	R	R	R		R	R
S	S	S	S		S	S
T	T	T	T		T	T
U	U	U	U		U	U
V	V	V	V		V	V
W	W	W	W		W	W
X	X	X	X		X	X
Y	Y	Y	Y		Y	Y
Z	Z	Z	Z		Z	Z

6. DATE OF BIRTH

Month	Day		Year	
JAN				
FEB	0	0	0	0
MAR	1	1	1	1
APR	2	2	2	2
MAY	3	3	3	3
JUN		4	4	4
JUL		5	5	5
AUG		6	6	6
SEP		7	7	7
OCT		8	8	8
NOV		9	9	9
DEC				

7. GENDER

- MALE
- FEMALE

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1.	A	B	C	D	24.	A	B	C	D
2.	A	B	C	D	25.	A	B	C	D
3.	A	B	C	D	26.	A	B	C	D
4.	A	B	C	D	27.	A	B	C	D
5.	A	B	C	D	28.	A	B	C	D
6.	A	B	C	D	29.	A	B	C	D
7.	A	B	C	D	30.	A	B	C	D
8.	A	B	C	D	31.	A	B	C	D
9.	A	B	C	D	32.	A	B	C	D
10.	A	B	C	D	33.	A	B	C	D
11.	A	B	C	D	34.	A	B	C	D
12.	A	B	C	D	35.	A	B	C	D
13.	A	B	C	D	36.	A	B	C	D
14.	A	B	C	D	37.	A	B	C	D
15.	A	B	C	D	38.	A	B	C	D
16.	A	B	C	D	39.	A	B	C	D
17.	A	B	C	D	40.	A	B	C	D
18.	A	B	C	D	41.	A	B	C	D
19.	A	B	C	D	42.	A	B	C	D
20.	A	B	C	D	43.	A	B	C	D
21.	A	B	C	D	44.	A	B	C	D
22.	A	B	C	D	45.	A	B	C	D
23.	A	B	C	D					