

2023



AP[®] Calculus AB

Free-Response Questions

Answer QUESTION 1 parts (a) and (b) on this page.

t (seconds)	0	60	90	120	135	150
$f(t)$ (gallons per second)	0	0.1	0.15	0.1	0.05	0

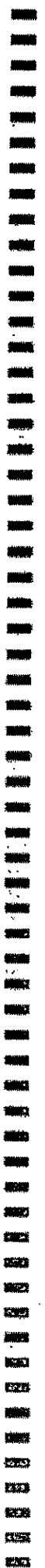
Response for question 1(a)

Response for question 1(b)

Answer QUESTION 1 parts (c) and (d) on this page.

Response for question 1(c)

Response for question 1(d)



Answer QUESTION 2 parts (a) and (b) on this page.

Response for question 2(a)

Response for question 2(b)

Use a pencil or a pen with black or dark blue ink. Do NOT write your name. Do NOT write outside the box.

Answer QUESTION 2 parts (c) and (d) on this page.

Response for question 2(c)

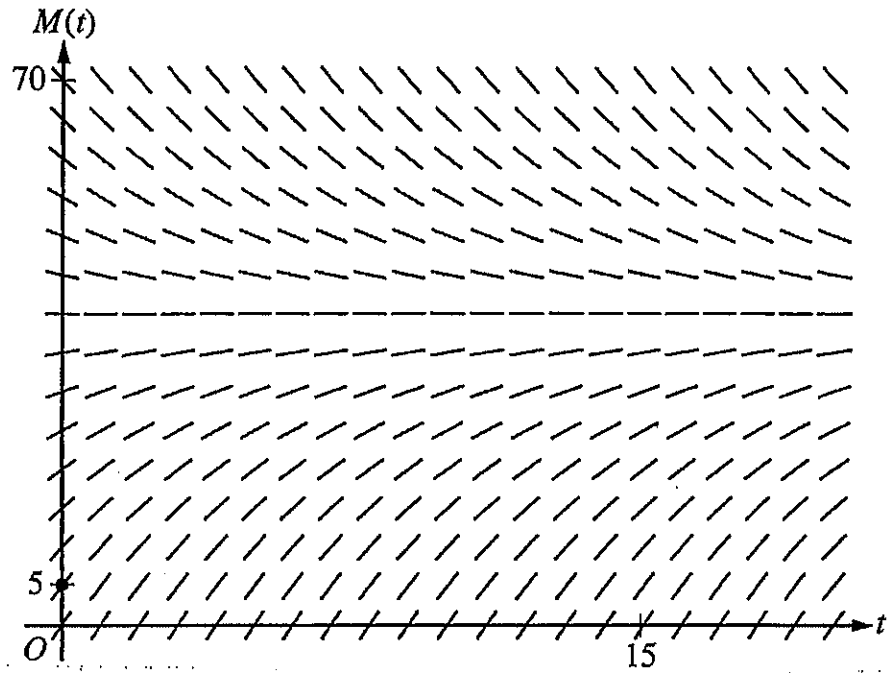
Response for question 2(d)

Use a pencil or a pen with black or dark blue ink. Do NOT write your name. Do NOT write outside the box.



Answer QUESTION 3 parts (a) and (b) on this page.

Response for question 3(a)



Response for question 3(b)

Use a pencil or a pen with black or dark blue ink. Do NOT write your name. Do NOT write outside the box.

3

3

NO CALCULATOR ALLOWED

3

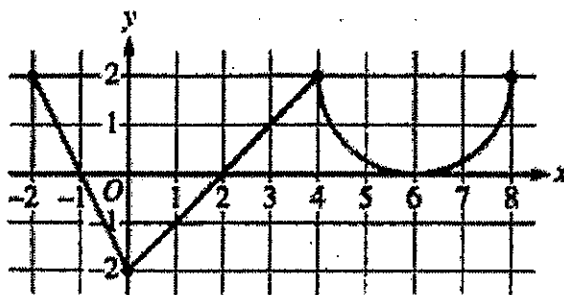
3

Answer QUESTION 3 parts (c) and (d) on this page.

Response for question 3(c)

Response for question 3(d)

Answer QUESTION 4 parts (a) and (b) on this page.



Graph of f'

Response for question 4(a)

Response for question 4(b)

Answer QUESTION 4 parts (c) and (d) on this page.

Response for question 4(c)

Response for question 4(d)

Use a pencil or a pen with black or dark blue ink. Do NOT write your name. Do NOT write outside the box.

Answer QUESTION 5 parts (a) and (b) on this page.

x	0	2	4	7
$f(x)$	10	7	4	5
$f'(x)$	$\frac{3}{2}$	-8	3	6
$g(x)$	1	2	-3	0
$g'(x)$	5	4	2	8

Response for question 5(a)

Response for question 5(b)

Answer QUESTION 5 parts (c) and (d) on this page.

Response for question 5(c)

Response for question 5(d)

Answer QUESTION 6 parts (a) and (b) on this page.

Response for question 6(a)

Response for question 6(b)

Use a pencil or a pen with black or dark blue ink. Do NOT write your name. Do NOT write outside the box.



Answer QUESTION 6 parts (c) and (d) on this page.

Response for question 6(c)

Response for question 6(d)

