

2022

AP<sup>®</sup>

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# AP<sup>®</sup> Calculus BC

## Free-Response Questions

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

Response for question 1(a)

Response for question 1(b)

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

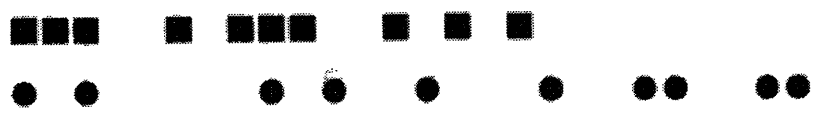


Answer QUESTION 1 parts (c) and (d) on this page.

Response for question 1(c)

Response for question 1(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 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.

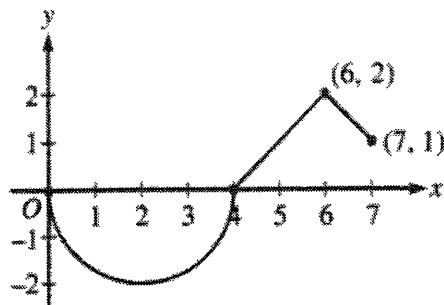
Response for question 2(c)

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.



Graph of  $f'$

Response for question 3(a)

Response for question 3(b)

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

Response for question 3(c)

Response for question 3(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 4 parts (a) and (b) on this page.

$t$ (days)	0	3	7	10	12
$r'(t)$ (centimeters per day)	-6.1	-5.0	-4.4	-3.8	-3.5

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 part (a) on this page.

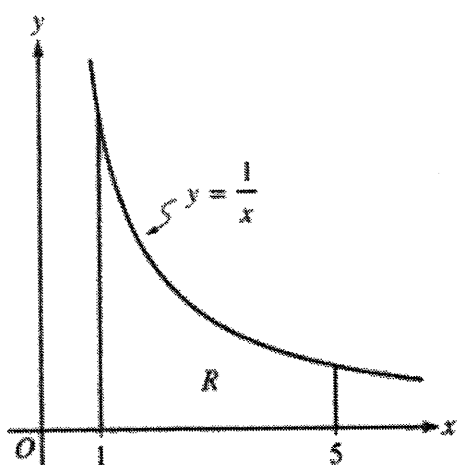


Figure 1

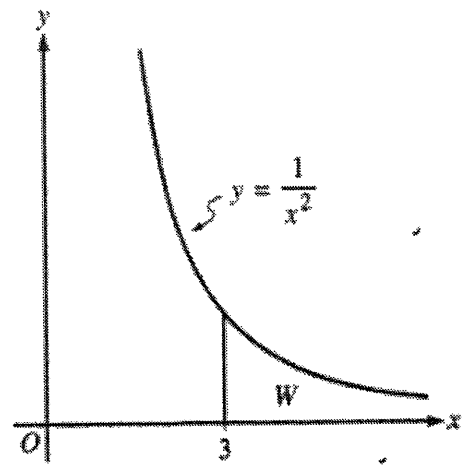


Figure 2

Response for question 5(a)

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 (b) and (c) on this page.

Response for question 5(b)

Response for question 5(c)

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 (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)

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



