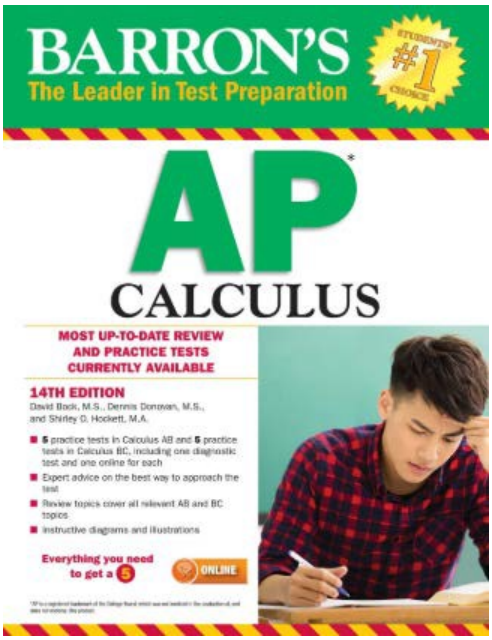
AP Calculus BC Summer Assignment

Both AP Calculus AB & BC will need to purchase the book below. This is Barron's AP Calculus Prep Book, 14th Edition. Each class has a different summer assignment as well as a different agenda the first week back to school. Please see below for your course that you will be enrolled into for the fall semester. I am not looking for the assignments below to just be complete. They need to be complete and you need to have a solid understanding of the material entering day 1 of school.



AP Calculus BC:

Barron's: P. 102 #1-42 all,

Attached pdf: #1-23 (one of each exercises worked out) you will be expected to learn these on your own. The formula associated with these problems is below. It is referred to as The Limit of The Difference Quotient

$$f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$$

You will have a test on the above once you return from the summer. This can change depending on how the beginning of school goes. It may become earlier or late

AP Calculus BC Name_____ ID: 1

Summer Assignment Part 2

Date_____ Period____

Use the definition of the derivative to find the derivative of each function with respect to *x*.

1) $f(x) = 4x + 4$

2) $f(x) = -4x + 3$

3) $f(x) = -5x + 3$

4) $f(x) = 5x + 4$

5) $f(x) = 5x^2 - 5$

6) $f(x) = 5x^2 + 1$

7) $f(x) = 4x^2 + 3$

8) $f(x) = 2x^2 + 5$

9) $f(x) = -2x^2 + x + 4$

10) $f(x) = -x^2 - 4x - 4$

11) $f(x) = -4x^2 + 3x + 5$

12) $f(x) = 2x^2 - 4x + 4$

13) $f(x) = 4x^2 + 2x + 4$

14) $f(x) = \sqrt{2x + 2}$

15) $f(x) = \sqrt{3x + 3}$

16) $f(x) = \sqrt{5x + 5}$

17) $f(x) = \sqrt{2x + 1}$

18) $f(x) = \sqrt{5x + 4}$

19) $f(x) = \dfrac{2}{x + 4}$

20) $f(x) = -\dfrac{2}{x + 5}$

21) $f(x) = -2x + 5$

22) $f(x) = -\dfrac{2}{2x - 1}$

23) $f(x) = 5x + 5$

Answers to Summer Assignment Part 2 (ID: 1)

1) $f'(x) = 4$
2) $f'(x) = -4$
3) $f'(x) = -5$
4) $f'(x) = 5$
5) $f'(x) = 10x$
6) $f'(x) = 10x$
7) $f'(x) = 8x$
8) $f'(x) = 4x$
9) $f'(x) = -4x + 1$
10) $f'(x) = -2x - 4$
11) $f'(x) = -8x + 3$
12) $f'(x) = 4x - 4$
13) $f'(x) = 8x + 2$
14) $f'(x) = \frac{1}{\sqrt{2x + 2}}$
15) $f'(x) = \frac{3}{2\sqrt{3x + 3}}$
16) $f'(x) = \frac{5}{2\sqrt{5x + 5}}$
17) $f'(x) = \frac{1}{\sqrt{2x + 1}}$
18) $f'(x) = \frac{5}{2\sqrt{5x + 4}}$
19) $f'(x) = -\frac{2}{x^2 + 8x + 16}$
20) $f'(x) = \frac{2}{x^2 + 10x + 25}$
21) $f'(x) = -2$
22) $f'(x) = \frac{4}{4x^2 - 4x + 1}$
23) $f'(x) = 5$