Pop Quiz # 10

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6/8 points (graded)

In the following, write your BRACU ID# and section number first. After you submit the quiz, it will show that the ID# and Section numbers are wrong. Please ignore this messages. You score will based on the MCQs only.

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Your BracU ID #

19101239 ✖

Your Theory class section #:

- [ ] 1
- [ ] 2

- [ ] 3
- [ ] 4
- [ ] 5
- [x] 6

✖

Below are the MCQs:

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Q#1: How do we deal with function with higher multiplicity?

- ( ) By dividing the domain of the function by their factors.
- ( ) By reducing multiplicity by terminating the term that has the highest degree.
- (•) By dividing the domain of the function by their turning points.
- ( ) By finding a polynomial with a lower multiplicity of that function as a replacement.

✔

Q#2: How do we deal with functions that do not cross the x-axis, but touches it?

- (•) By dividing the domain of the function by their turning points.
- ( ) By finding a polynomial with a lower multiplicity of that function as a replacement.
- ( ) By dividing the domain of the function by their factors.

- ◯ By reducing multiplicity by terminating the term that has the highest degree.

✔

Q#3: A function has multiple roots within the interval $[a, b]$. Let's say, $f'(c_1) = 0$ and $f'(c_2) = 0$ How can we divide the interval $[a, b]$ if $c_1 < c_2$?

- ◯ $[a, b] = [a, b] \cap [c_1, c_2]$.
- ◉ $[a, b] = [a, c_1] \cup [c_1, c_2] \cup [c_2, b]$.
- ◯ $[a, b] = [a, c_2] \cup [c_2, c_1] \cup [c_1, b]$.
- ◯ $[a, b] = [a, b] - [c_1, c_2]$

✔

Q#4: Suppose you are given a function $f(x)$ with an interval $[a, b]$. If you are asked to find the root of $f(x)$ within the interval (a, b) using interval bisection method, which of the following will you check first?

- ◯ $f(a) f(b) > 0$
- ◉ $f(a) f(b) < 0$
- ◯ $f(a) f(b) = 0$
- ◯ None of the above.

✔

Q#5: In the bisection method, suppose $f(a) < 0, f(b) > 0$ and $f(m_0) > 0$ and there is only 1 root in $[a, b]$, in which of the following subintervals you will find the root?

- (●) $[a, m_0]$.
- ( ) it can be wither in $[a, m_0]$ or $[m_0, b]$.
- ( ) $[m_0, b]$.
- ( ) It cannot be determined.

✔

Q#6: In the bisection method, suppose $f(a) > 0, f(b) < 0$ and $f(m_0) > 0$ and there is only 1 root in $[a, b]$, in which of the following subintervals you will find the root?

- (●) $[m_0, b]$.
- ( ) it can be wither in $[a, m_0]$ or $[m_0, b]$.
- ( ) $[a, m_0]$.
- ( ) It cannot be determined.

✔

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