

QUIZ 9

This quiz covers sections 3.1, 3.2 and 3.5.

PLEASE READ CAREFULLY

This is a group quiz. Each group is of 3 or 4 students. Only one paper per group is going to be returned. Write ALL the names on that paper.

Imagine that I have no idea of what you are doing and you have to explain everything!! This applies to all the quizzes and of course your exams. Not explicit answers will not take full marks!!

NO CALCULATORS ALLOWED ON THIS QUIZ

Exercise 1: You have 50 yards of fencing to enclose a rectangular plot that borders on a river. If you do not fence the side along the river, find the length and width of the plot that will maximize the area. What is the largest area that can be enclosed? (3 points)

Exercise 2: State why the function $f(x) = -x^4 + 16x^2$ is or isn't a polynomial and then

- Use the Leading Coefficient Test to determine the graph's end behavior.
- Find the x-intercepts. State whether the graph crosses the x-axis, or touches the x-axis and turns around, at each intercept.
- Find the y intercept.
- Make a draft plot of the function using the above properties. (3 points)

Exercise 3: Can the graph of a polynomial function have no y-intercept? Explain

Can the graph of a polynomial function have no x-intercept? Explain

(2 points)

Exercise 4: Find the vertical and the horizontal asymptotes, if any, of the graph of the rational function: $f(x) = \frac{x^2+3}{x(x+4)}$. (2 points)