

QUIZ 6 - MATH 111

Friday, March 14

YOUR NAME: _____

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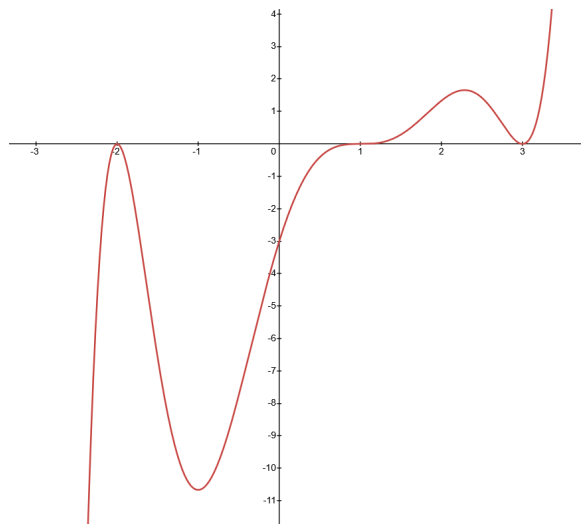
Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [5 points] Consider the function

$$f(x) = x^3(x + 2)^2(x - 3).$$

- (a) Give formally the end behavior with some explanations.
- (b) Give the x -intercepts with their multiplicities.
- (c) Make a sketch of the graph using the information in the preceding parts (please, draw it neatly).

3. [7 points] Consider the graph shown in the following figure.



- (a) Give formally its end behavior.
- (b) Find the y -intercept.
- (c) Find the x -intercepts with their multiplicities.
- (d) Find a possible formula for the function whose graph is shown.