

QUIZ 6 - MATH 111

Friday, March 22

YOUR NAME: _____

George Voutsadakis

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. [6 points] Consider the polynomial

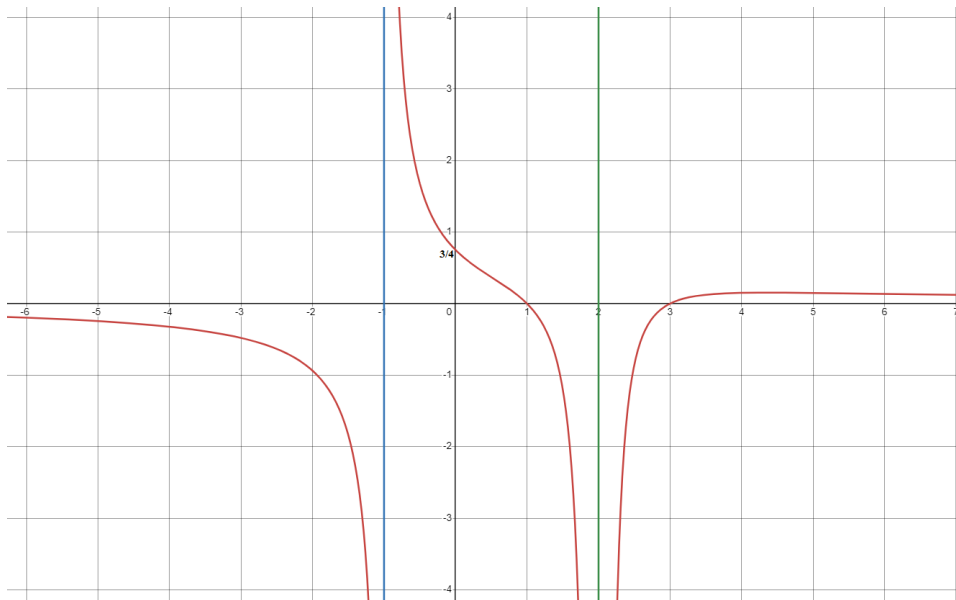
$$f(x) = 2x^3 + 5x^2 - 28x - 15.$$

- (a) Use the Factor Theorem to verify that $x + 5$ is a factor of f .

- (b) Find the remaining factors of f .

- (c) Find all roots of f .

2. [6 points] Consider the graph of $y = f(x)$ shown.



- (a) Identify the domain.
- (b) Find the vertical asymptotes.
- (c) Find the horizontal asymptote.
- (d) Find the y -intercept.
- (e) Find the x -intercepts.
- (f) Find a formula for $y = f(x)$.