

NAME:

Math 010 Fall 22 Test 3

Directions: Do all problems. Partial credit will be awarded. No notes/books/friends allowed. No question requires a calculator but you are welcome to use one. Do not use any decimals in your answers. Graphing calculators above the level of a TI - 84 Plus are not allowed (in particular, calculators with a built in CAS or QWERTY keyboard are not allowed). You have 50 minutes to complete this exam.

REMEMBER TO SHOW ALL WORK

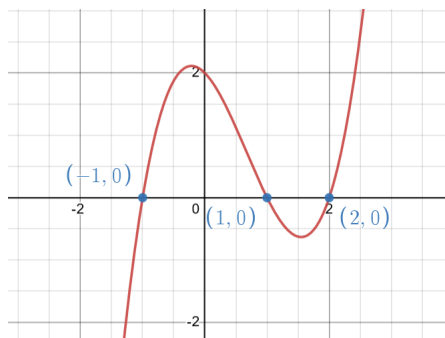
1. (10 points) Simplify $(2y^2 - 5y + 5) - (2y^2 - 2y + 1)$

2. (10 points) Simplify $(3x + 2)(3x - 2)$

3. (5 points) Simplify $(3x + 2)(4x^2 - 2x - 5)$

4. (10 points) For the function $f(x) = x^2 + 14x + 24$ find $f(0)$ and $f(-2)$

5. (5 points) Find the polynomial that makes this graph.



6. (5 points) Compute $\sqrt{-18} + \sqrt{-2}$

7. (10 points) Compute $(3 + 4i)^2$

8. (10 points) Simplify

$$\frac{3}{3 - 2i}$$

9. (10 points) Factor $x^2 - 16$

10. (5 points) Factor $2x^2 + x - 6$

11. (10 points) Solve $4x^2 = 36$

12. (10 points) Solve $x^2 - 15 = 2x$