

MAT 517 HOMEWORK #1 ^{REVISED}

USE L_AT_EX TO CREATE AN EXAM WITH THE FOLLOWING PROBLEMS TAKEN FROM THE FALL 19 MAT 103 FINAL:

- USE THE EXAM CLASS, AND PRODUCE BOTH AN EXAM AND SOLUTION SET. LEAVE ENOUGH SPACE FOR STUDENTS TO DO THE PROBLEMS.
- ① (6 PTS) SOLVE THE FOLLOWING EQUATION. CHECK YOUR ANSWER WITH SUBSTITUTION.

$$-\frac{3}{2}(6-14x) + 8x = 5x - 4(1-6x)$$

(I TOOK THIS FROM A COLLEAGUE'S EXAM, AND IT HAS NO SOLUTIONS. ~~REPLACE~~ THE HIGHLIGHT 4 BY $\frac{1}{4}$ AND THEN DO THE PROBLEM)

- ② (6 PTS) SOLVE THE FOLLOWING QUADRATIC INEQUALITY

$$2x^2 - 7 > 0$$

- ③ (4 PTS) FIND THE RECIPROCAL OF

$$\frac{\sqrt{3} - \sqrt{5}}{\sqrt{12}}$$

AND WRITE IN SIMPLEST RADICAL FORM.

- ④ SOLVE THE SYSTEM OF ~~ALGEBRAIC~~ EQUATIONS ALGEBRAICALLY. CHECK YOUR RESULT

$$\begin{cases} 4x + 8y = 24 \\ 9x + 6y = 36 \end{cases}$$