

NAME:

Math 010 Fall 22 Test 1

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 (except the 1st problem).

1. (10 points, 2 points each)

(a) Compute $3 + 6$

(b) Compute $8 + (-2)$

(c) Compute $8 - 2$

(d) Compute $4 \cdot (-3)$

(e) Compute $6 \div 3$

2. (5 points) Simplify the fraction: $\frac{300}{450}$

3. (10 points) Compute and simplify $\frac{7}{5} - \frac{2}{5}$

4. (5 points) Compute and simplify $\frac{1}{6} - (-\frac{2}{3})$

5. (10 points) Compute and simplify $\frac{1}{3} \cdot \frac{2}{5}$

6. (5 points) Compute and simplify $\frac{1}{4} \div (-\frac{2}{5})$

7. (5 points) Compute and simplify

$$\frac{\frac{1}{3} + \frac{5}{6}}{\frac{1}{3} - \frac{1}{2}}$$

8. (10 points) Solve for x: $\frac{1}{4}x = 3$

9. (5 points) Solve for x: $-7 + 19 + 2x = 8x - x - 3x$

10. (5 points) Solve the inequality, graph the solution, and write the solution in interval notation: $6x \leq 13x + 14$

11. (10 points) Compute and simplify $5^2a + 2^2a$

12. (5 points) Simplify $59^{89} \cdot 59^{-90}$

13. (5 points) Compute $\sqrt{16}$

14. (5 points) Compute $\sqrt[47]{3^{47}}$

15. (5 points) Simplify $\sqrt[3]{27a^{15}}$