

NAME:

Math 010 Fall 22 Mock 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 $2 + 5$

(b) Compute $7 + (-3)$

(c) Compute $7 - 3$

(d) Compute $3 \cdot (-2)$

(e) Compute $4 \div 2$

2. (5 points) Simplify the fraction: $\frac{540}{630}$

3. (10 points) Compute and simplify $\frac{7}{4} - \frac{3}{4}$

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

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

6. (5 points) Compute and simplify $\frac{1}{2} \div (-\frac{6}{7})$

7. (5 points) Compute and simplify $\frac{\frac{1}{2} + \frac{5}{6}}{\frac{1}{2} - \frac{2}{3}}$

8. (10 points) Solve for x: $\frac{1}{3}x = 6$

9. (5 points) Solve for x: $-6 + 15 + 3x = x + 2x - 3x$

10. (5 points) Solve the inequality, graph the solution, and write the solution in interval notation: $5x \leq 12x + 21$

11. (10 points) Compute and simplify $2^2a + 3^3a$

12. (5 points) Simplify $99^{47} \cdot 99^{-46}$

13. (5 points) Compute $\sqrt{9}$

14. (5 points) Compute $\sqrt[33]{9^{33}}$

15. (5 points) Simplify $\sqrt[3]{8a^{12}}$