Math 105 - Homework 1 **Name:** _____

Simplify each of the following expressions to a single reduced fraction. Show your work. No calculators.

1. $\frac{1}{4} + \frac{1}{6}$

$\frac{5}{12}$

2. $\frac{3}{5} - \frac{1}{4}$

$\frac{7}{20}$

3. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4}$

$\frac{13}{12}$

4. $\frac{1}{2} - \frac{(-1)}{8} - \frac{1}{5}$

$\frac{17}{40}$

5. $\frac{-1}{5} - \frac{2}{7}$

$-\frac{17}{35}$

6. $\frac{x}{y} + \frac{x}{2}$

$\frac{2x + xy}{2y}$

7. $\frac{3}{10} - 2$

$-\frac{17}{10}$

8. $0.45 - 0.02$

0.43

9. $\frac{7}{5} - 0.3$

1.1

10. $4\left(\frac{5}{3}\right)$

$\frac{20}{3}$

11. $\frac{4}{-1/3}$

-12

12. $\frac{\left(\frac{8}{3}\right)}{4}$

$\frac{2}{3}$

13. $\left(\frac{3}{4}\right)\left(\frac{-7}{2}\right)$

$-\frac{21}{8}$

14. $\frac{(4/7)(9/8)}{2}$

$\frac{9}{28}$

15. $\frac{(-1/3)(-6)}{(-4/7)}$

$-\frac{7}{2}$

16. $\frac{\left(\frac{3}{25}\right)}{\left(\frac{4}{7}\right)}$

$\frac{21}{100}$

More $\longrightarrow$

17. $\left(\frac{3}{4}\right)\left(\frac{-20}{9}\right)$

$-\frac{5}{3}$

18. $\frac{(4/21)(9/8)}{2}$

$\frac{3}{28}$

19. $\frac{(-1/3)(-6)}{(-4/7)}$

$-\frac{7}{2}$ (repeat!)

20. $\left(\frac{15}{8}\right)\left(\frac{44}{25}\right)$

$\frac{33}{10}$

21. $\frac{4xy}{2(y/x)}$

$2x^2$

22. $(0.02)(0.01)$

$\frac{1}{5000}$

23. $(0.7)(100)$

70

24. $\frac{0.75}{5}$

$\frac{3}{20}$

25. $\frac{1}{4}(0.24)$

$0.06 = \frac{3}{50}$

26. $\frac{0.3}{0.18}$

$\frac{5}{3}$

27. $\frac{0.064}{0.8}$

$0.08 = \frac{2}{25}$

28. $\frac{0.12}{1/5}$

$0.6 = \frac{3}{5}$

29. $\frac{3}{1-\frac{1}{10}}$

$\frac{10}{3}$

30. $\frac{1}{1+\frac{1}{5}}$

$\frac{5}{6}$

31. $\frac{0.44}{1-0.01}$

$\frac{4}{9}$

32. $\frac{\frac{1}{2}-\frac{1}{3}}{\frac{1}{2}+\frac{1}{3}}$

$\frac{1}{5}$

33. $\frac{x^2+x^2+x^2}{2x}$

$\frac{3x}{2}$

34. $\frac{3y}{3y+2y+y}$

$\frac{1}{2}$

35. $\frac{\frac{1}{2x}}{\frac{1}{x}+\frac{1}{x}}$

$\frac{1}{4}$

36. $\frac{1}{x+y+x}$

$\frac{1}{2x+y}$