ACMAT100 Spring 2025
Professor Manguba-Glover
Section 6.4-6.6 Homework (HW 14) Name: _____

Show all work and circle/box your simplified answers. If you do the problem incorrectly, or don't show sufficient work, you will be asked to rewrite the problem for credit. Students who turn assignments in late (or do not attempt a problem) forfeit their ability to rewrite those problems for credit.

**Due at the start of next class (unless otherwise arranged with Professor MG).**

(1) Solve: $\frac{x}{3} - \frac{3x}{4} = -\frac{5x}{12}$

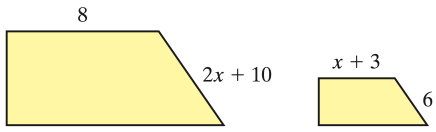
(2) Solve $\frac{x+1}{x+10} = \frac{x-2}{x+4}$

(3) Solve $\frac{8}{x^2-9} = \frac{2}{x-3} - \frac{4}{x+3}$

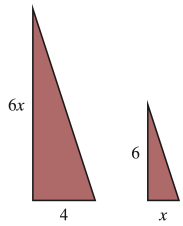
(4) Solve $\frac{5}{x^2+4x+3} + \frac{2}{x^2+x-6} = \frac{3}{x^2-x-2}$

(5) Solve $x - \frac{4}{3x} = -\frac{1}{3}$

(6) Assuming the following are similar figures, solve for $x$:




(7) Assuming the following are similar figures, solve for $x$:




(8) The sum of the reciprocals of two consecutive integers is $\frac{11}{30}$. What are the two integers?
Note: the original copy of this had a typo. If you turned it in before it was corrected, you'll just get full credit for this problem.

(9) If it takes Richard 2 hours to prepare a baseball field and Larry 6 hours to prepare the same field, how long will it take them to prepare it together?

(10) Alex collects garbage from containers outside his apartment complex and takes it to a dumpster. When he works alone, it takes him 120 minutes. When his brother Max helps him, it takes them 72 minutes. How long would it take Max to complete the job alone?