

Arithmetic review. Please complete the following problems on a separate sheet of paper without a calculator, showing all work. This is a requirement for passing and must be handed in the second week of class.

Simplify the following fractions by reducing to lowest terms. Show the work as in the following example:

$$\frac{24}{60} = \frac{2^3 \times 3}{2^2 \times 3 \times 5} = \frac{2}{5}$$

1. $\frac{98}{84}$
2. $\frac{20}{100}$
3. $\frac{297}{495}$

Multiply the following fractions. Reduce to lowest terms, showing all work as above.

4. $\frac{15}{14} \times \frac{21}{10}$
5. $\frac{121}{18} \times \frac{9}{66}$
6. $\frac{98}{495} \times \frac{3}{14}$

Divide the following fractions. Reduce to lowest terms, again showing all the work.

7. $\frac{12}{121} \div \frac{6}{11}$
8. $\frac{64}{55} \div \frac{20}{125}$
9. $\frac{297}{84} \div \frac{495}{98}$

Add (or subtract) the following fractions, and then reduce if possible. Show the work as follows:

$$-\frac{5}{8} + 7 = -\frac{5}{8} + \frac{56}{8} = \frac{51}{8}$$

$$10. -\frac{3}{2} + 5$$

$$11. 10 - \frac{7}{3}$$

$$12. \frac{8}{9} - 7$$

Find the Least Common Multiple for the following pairs of numbers, showing the work as follows:

$$24 = 2^3 \times 3, 100 = 2^2 \times 5^2$$

$$\Rightarrow LCM(24, 100) = 2^3 \times 3 \times 5^2 = 600$$

13. *LCM* (11, 7)
14. *LCM* (12, 8)
15. *LCM* (20, 100)
16. *LCM* (98, 84)
17. *LCM* (297, 495)

Add (or subtract) the following fractions.

$$18. \frac{11}{7} - \frac{7}{11}$$

$$19. \frac{5}{12} - \frac{1}{8}$$

$$20. \frac{7}{20} - \frac{9}{100}$$

$$21. \frac{5}{98} + \frac{7}{84}$$

$$22. \frac{5}{297} + \frac{4}{495}$$