

# Advanced Arithmetic and Pre-Algebra Practice

## Instructions

Solve each problem. For fraction problems, **write your final answer as an improper fraction**. For pre-algebra items, simplify fully.

## A. Addition and Subtraction of Fractions

1.  $\frac{7}{12} + \frac{5}{8}$

2.  $\frac{13}{15} - \frac{7}{10}$

3.  $\frac{9}{14} + \frac{3}{7}$

4.  $\frac{5}{6} - \frac{11}{12}$

5.  $\frac{2}{9} + \frac{7}{18}$

6.  $\frac{17}{20} - \frac{3}{5}$

## B. Multiplying and Dividing Fractions

7.  $\frac{4}{9} \times \frac{15}{16}$

8.  $\frac{7}{8} \times \frac{6}{5}$

9.  $\frac{5}{12} \div \frac{3}{8}$

10.  $\frac{11}{15} \div \frac{22}{45}$

11.  $3\frac{1}{4} \times \frac{2}{3}$

12.  $5 \div \frac{7}{10}$

## C. Mixed Numbers and Combined Operations

13.  $1\frac{5}{6} + \frac{2}{3}$

14.  $3\frac{1}{4} - 1\frac{5}{8}$

15.  $(\frac{5}{6} + \frac{1}{4}) - \frac{2}{3}$

16.  $(2\frac{1}{5} \div \frac{3}{10}) + \frac{1}{2}$

## D. Pre-Algebra Basics

17. Simplify:  $3(4 - 7) + 2^3$

18. Solve:  $5x - 7 = 18$

19. Solve:  $2(x - 3) = 4x + 6$

20. Evaluate:  $-3^2 + (-4)(2) + 15$