

**Example 2**

Combining fractions when the denominators are different:

$$a) \frac{3}{8} + \frac{1}{4} = \frac{3}{8} + \frac{1 \times 2}{4 \times 2} = \frac{3}{8} + \frac{2}{8} = \boxed{\frac{5}{8}}$$

$$b) -\frac{2}{7} - \frac{5}{14} = -\frac{2 \times 2}{7 \times 2} - \frac{5}{14} = -\frac{4}{14} - \frac{5}{14} = \boxed{-\frac{9}{14}}$$

$$c) \frac{1}{2} + \frac{1}{3} = \frac{1 \times 3}{2 \times 3} + \frac{1 \times 2}{3 \times 2} = \frac{3}{6} + \frac{2}{6} = \boxed{\frac{5}{6}}$$

$$d) \frac{5}{6} + \frac{1}{4} + \frac{2}{3} = \frac{5 \times 2}{6 \times 2} + \frac{1 \times 3}{4 \times 3} + \frac{2 \times 4}{3 \times 4} = \frac{10}{12} + \frac{3}{12} + \frac{8}{12} = \boxed{\frac{21}{12}} = \frac{21 \div 3}{12 \div 3} = \boxed{\frac{7}{4}}$$

**Example 3**

Combining mixed fraction forms:

$$a) 2\frac{2}{5} - \frac{4}{3} = \frac{12}{5} - \frac{4}{3} \Rightarrow \frac{12 \times 3}{5 \times 3} - \frac{4 \times 5}{3 \times 5} \Rightarrow \frac{36}{15} - \frac{20}{15} = \boxed{\frac{16}{15}}$$

↖ change to improper fractions

$$b) \frac{4}{5} - 6 = \frac{4}{5} - \frac{6}{1} \Rightarrow \frac{4}{5} - \frac{6 \times 5}{1 \times 5} \Rightarrow \frac{4}{5} - \frac{30}{5} = \boxed{-\frac{26}{5}}$$

$$c) \frac{1}{5} + 3 + \frac{3}{5} = \frac{1}{5} + \frac{3}{1} + \frac{3}{5} \Rightarrow \frac{1}{5} + \frac{3 \times 5}{1 \times 5} + \frac{3}{5} \Rightarrow \frac{1}{5} + \frac{15}{5} + \frac{3}{5} = \boxed{\frac{19}{5}}$$

$$d) 1\frac{3}{7} - 4 + \frac{5}{7} = \frac{10}{7} - \frac{4}{1} + \frac{5}{7} \Rightarrow \frac{10}{7} - \frac{4 \times 7}{1 \times 7} + \frac{5}{7} = \frac{10}{7} - \frac{28}{7} + \frac{5}{7} = \boxed{-\frac{13}{7}}$$