

o 3: simplify

$$a. \frac{7}{12} + \frac{9}{12} - \frac{5}{15} = \frac{7+9-5}{12} = \frac{11}{12}$$

$$b. \frac{9}{10} - \frac{3}{5} + \frac{7}{8} + \frac{9}{10} + \frac{7}{8} - \frac{3}{5} = \frac{9 \times 4 + 7 \times 5 - 3 \times 5}{40} = \frac{36 + 35 - 24}{40} = \frac{71 - 24}{40}$$

$$= \frac{47}{40} = \frac{1 \frac{7}{40}}$$

$$c. \frac{5}{12} - \frac{2}{3} - \frac{1}{2} + 7 = 7 + \left(\frac{5}{12} - \frac{2}{3} - \frac{1}{2} \right)$$

$$= 7 + \frac{5 - 8 - 6}{12} = \frac{19}{12}$$

$$d. \frac{1}{2} + \frac{3}{4} - \frac{5}{8} - \frac{1}{16} = \frac{1 + 12 - 10 - 1}{16} = \frac{9}{16}$$

$$e. 8\frac{3}{4} + 7\frac{1}{2} - 3\frac{1}{4} - 2\frac{1}{2} = \frac{35}{4} + \frac{15}{2} + \frac{17}{4} - \frac{10}{2}$$

$$= \frac{35 + 30 + 17 - 10}{4} = \frac{72}{4}$$

$$f. 10\frac{5}{6} - 7\frac{2}{3} + 8\frac{1}{3} - 5\frac{1}{2} = 10\frac{5}{6} + 8\frac{1}{3} - 7\frac{2}{3} - 5\frac{1}{2}$$

$$= (10 + 8 - 7 - 5) \frac{5}{6} + \frac{1}{3} - \frac{2}{3} - \frac{1}{2}$$

$$= (18 - 12) \frac{5}{6} + 2 - 4 - 3 = 6 \left(\frac{7 - 7}{6} \right)$$

$$= 6 \frac{0}{6} = 6$$

$$g. 5\frac{5}{12} - 6 + 8 - 5\frac{3}{5} = 6 + 8 + 5 + 5 \left(\frac{5}{12} - \frac{3}{5} \right)$$

$$= \frac{25 - 36}{60} = \frac{24}{60}$$