

7.5 Addition and Subtraction Expressions with Fractions

Evaluate expressions for the given value:

1.) $5\frac{1}{2} + n$ when $n = 3\frac{1}{4}$

$$5\frac{1 \cdot 2}{2 \cdot 2} + 3\frac{1}{4} = 5\frac{2}{4} + 3\frac{1}{4} = \boxed{8\frac{3}{4}}$$

2.) $4\frac{2}{9} - m$ when $m = 2\frac{1}{9}$

$$4\frac{2}{9} - 2\frac{1}{9} = \boxed{2\frac{1}{9}}$$

3.) $5\frac{7}{8} - h$ when $h = 2\frac{3}{4}$

$$5\frac{7}{8} - 2\frac{3 \cdot 2}{4 \cdot 2} = 5\frac{7}{8} - 2\frac{6}{8} = \boxed{3\frac{1}{8}}$$

$$5\frac{7 \cdot 2}{8 \cdot 2} - 2\frac{3 \cdot 4}{4 \cdot 4} = 5\frac{14}{16} - 2\frac{12}{16} = 3\frac{2 \div 2}{16 \div 2} = \boxed{3\frac{1}{8}}$$

Example: Simplify each expression.

$$4.) 12 \frac{1 \cdot 2}{4 \cdot 2} + 5 \frac{1}{8} + 2 \frac{1 \cdot 2}{4 \cdot 2}$$

$$12 \frac{2}{8} + 5 \frac{1}{8} + 2 \frac{2}{8} = \boxed{19 \frac{5}{8}}$$

$$5.) \left(\frac{1 \cdot 5}{2 \cdot 5} + 2 \frac{3 \cdot 2}{5 \cdot 2} \right) + 1 \frac{1 \cdot 5}{2 \cdot 5}$$

$$\left(\frac{5}{10} + 2 \frac{6}{10} \right) + 1 \frac{5}{10} = 2 \frac{11}{10} + 1 \frac{5}{10} = 3 \frac{16}{10} = 1 \frac{6}{10}$$

$$6.) 3 \frac{5}{6} - \left(\frac{1 \cdot 2}{3 \cdot 2} + 1 \frac{1 \cdot 3}{2 \cdot 3} \right)$$

$$3 \frac{5}{6} - \left(\frac{2}{6} + 1 \frac{3}{6} \right)$$

$$3 \frac{5}{6} - 1 \frac{5}{6}$$

$$2 \frac{0}{6} = \boxed{2}$$

$$= 4 \frac{6 \div 2}{10 \div 2} = \boxed{4 \frac{3}{5}}$$