

Reasoning and Problem Solving Mixed Addition and Subtraction

Developing

1a. Anna is correct because:

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

2a.

$$\begin{array}{c} \frac{3}{4} \\ 6\frac{2}{8} + 2\frac{1}{4} + 1\frac{4}{16} = 9\frac{3}{4} \\ 1\frac{1}{2} \\ = 4\frac{1}{2} \end{array}$$

3a. Tia is incorrect because:

$$\frac{13}{12} + \frac{22}{12} = \frac{35}{12} = 2\frac{11}{12}$$

Expected

4a. Ross is correct because:

$$5\frac{1}{3} + 3\frac{2}{6} = 8\frac{4}{6}$$

5a.

$$\begin{array}{c} 1\frac{3}{5} \\ 10\frac{3}{4} + 6\frac{1}{8} + 2\frac{3}{12} = 2\frac{9}{24} \\ 1\frac{3}{4} \\ = 9\frac{19}{40} \end{array}$$

6a. Martin is incorrect because:

$$\frac{33}{12} + \frac{15}{12} + \frac{16}{12} = \frac{64}{12} = 5\frac{4}{12} = 5\frac{1}{3}$$

Greater Depth

7a. Tina is correct because:

$$2\frac{4}{12} + 9\frac{2}{4} = 11\frac{5}{6}$$

8a.

$$\begin{array}{c} 10\frac{11}{12} \\ 2\frac{4}{9} + 6\frac{1}{3} + 4\frac{1}{3} = 13\frac{1}{9} \\ 2\frac{1}{4} \\ = 2\frac{1}{3} \end{array}$$

9a. Paddy is correct because:

$$\frac{220}{28} - \frac{7}{28} - \frac{98}{28} = \frac{115}{28} = 4\frac{3}{28}$$

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1b. Will is correct because:

$$10\frac{14}{20} - 6\frac{6}{10} = 4\frac{1}{10}$$

2b.

$$\begin{array}{c} 10\frac{23}{24} \\ 2\frac{1}{4} + 5\frac{3}{8} + 1\frac{1}{4} = 8\frac{7}{8} \\ 3\frac{1}{12} \\ = 2\frac{1}{2} \end{array}$$

3b. Benji is incorrect because:

$$\frac{10}{8} + \frac{12}{8} = \frac{22}{8} = 2\frac{6}{8}$$

Expected

4b. Jess is correct because:

$$\frac{25}{3} - \frac{22}{5} = 8\frac{1}{3} - 4\frac{2}{5} = 3\frac{14}{15}$$

5b.

$$\begin{array}{c} 12\frac{4}{5} \\ 7\frac{2}{5} + 1\frac{1}{9} + 7\frac{1}{5} = 15\frac{32}{45} \\ 7\frac{2}{5} \\ = 4\frac{13}{45} \end{array}$$

6b. Rachael is correct because:

$$\frac{78}{10} - \frac{15}{10} - \frac{12}{10} = \frac{51}{10} = 5\frac{1}{10}$$

Greater Depth

7b. Rob is correct because:

$$8\frac{2}{7} - 2\frac{2}{6} = 5\frac{20}{21}$$

8b.

$$\begin{array}{c} 9\frac{4}{5} \\ 13\frac{1}{7} + 4\frac{2}{7} + 8\frac{2}{5} = 25\frac{29}{35} \\ 4\frac{1}{7} \\ = 1\frac{13}{35} \end{array}$$

9b. Marta is incorrect because:

$$\frac{230}{18} + \frac{6}{18} + \frac{57}{18} = \frac{293}{18} = 16\frac{5}{18}$$