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

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

c) $3\frac{1}{5} + 1\frac{3}{10} = 3\frac{2}{10} + 1\frac{3}{10} = 4 + \frac{5}{10} = 4\frac{5}{10} = 4\frac{1}{2}$

d) $2\frac{2}{9} + 5\frac{1}{3} = 2\frac{2}{9} + 5\frac{3}{9} = 7 + \frac{5}{9} = 7\frac{5}{9}$
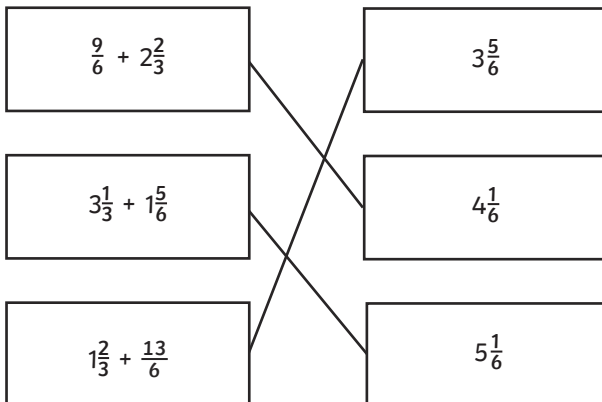
2) **a)** $1\frac{1}{2} + 1\frac{3}{8} = \frac{3}{2} + \frac{11}{8} = \frac{12}{8} + \frac{11}{8} = \frac{23}{8} = 2\frac{7}{8}$

b) $2\frac{3}{10} + 1\frac{2}{5} = \frac{23}{10} + \frac{7}{5} = \frac{23}{10} + \frac{14}{10} = \frac{37}{10} = 3\frac{7}{10}$

c) $1\frac{1}{9} + 1\frac{2}{3} = \frac{10}{9} + \frac{5}{3} = \frac{10}{9} + \frac{15}{9} = \frac{25}{9} = 2\frac{7}{9}$

d) $2\frac{1}{3} + 2\frac{1}{6} = \frac{7}{3} + \frac{13}{6} = \frac{14}{6} + \frac{13}{6} = \frac{27}{6} = 4\frac{3}{6} = 4\frac{1}{2}$

3)

$\frac{9}{6} + 2\frac{2}{3}$	$3\frac{5}{6}$
$3\frac{1}{3} + 1\frac{5}{6}$	$4\frac{1}{6}$
$1\frac{2}{3} + \frac{13}{6}$	$5\frac{1}{6}$

$\frac{9}{6} + 2\frac{2}{3}$ → $4\frac{1}{6}$

$3\frac{1}{3} + 1\frac{5}{6}$ → $5\frac{1}{6}$

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

1) a) Hannah has not understood how to change a mixed number into an improper fraction.

   $1\frac{2}{3}$ is equivalent to $\frac{5}{3}$, not $\frac{12}{3}$.

   b) $1\frac{2}{3} + \frac{7}{6} = \frac{5}{3} + \frac{7}{6} = \frac{10}{6} + \frac{7}{6} = \frac{17}{6} = 2\frac{5}{6}$

2) Either answer is correct as long as it is appropriately justified. Children will have different reasons for preferring one method over the other. They might find it quicker to add the whole numbers and fractions separately but this can lead to mistakes when the fractions total more than one. This is why some children may find it more efficient to convert into improper fractions before adding.

3) $6\frac{2}{3} + 3\frac{1}{6} = 6\frac{4}{6} + 3\frac{1}{6} = 9 + \frac{5}{6} = 9\frac{5}{6}$

   or

   $6\frac{2}{3} + 3\frac{1}{6} = \frac{20}{3} + \frac{19}{6} = \frac{40}{6} + \frac{19}{6} = \frac{59}{6} = 9\frac{5}{6}$

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1) Calculations b) and c) match the representation.

2) a) $7\frac{1}{4} + \frac{6}{8} = 8$ or $7\frac{6}{8} + \frac{1}{4} = 8$

   b) $1\frac{6}{9} + \frac{8}{3} = 4\frac{3}{9}$ or $4\frac{1}{3}$