Reasoning and Problem Solving
Add 3 or More Fractions

Developing

1a. Martha is incorrect because she needs to convert the $\frac{3}{9}$ to $\frac{6}{18}$. The answer is $\frac{17}{18}$.

2a. $\frac{3}{10} + \frac{1}{10} + \frac{2}{5} = \frac{8}{10}$

3a. True because $\frac{9}{14}$ is more than $\frac{8}{14}$.

Expected

4a. Priya is incorrect because she has added the denominators. The correct answer is $\frac{14}{16}$ or $\frac{7}{8}$.

5a. $\frac{4}{18} + \frac{2}{9} + \frac{1}{3} = \frac{14}{18}$

6a. False because $\frac{16}{20}$ is more than $\frac{12}{20}$.

Greater Depth

7a. Rita is incorrect because $\frac{1}{6} + \frac{1}{3} + \frac{1}{4} + \frac{1}{9} = \frac{31}{36}$

8a. $\frac{1}{36} + \frac{3}{9} + \frac{2}{6} = \frac{25}{36}$

9a. True because $\frac{41}{42}$ is more than $\frac{40}{42}$.

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1b. Rick is incorrect because he has added the denominators and the numerators together. The answer is $\frac{15}{16}$.

2b. $\frac{2}{8} + \frac{2}{16} + \frac{4}{16} = \frac{10}{16}$

3b. False because $\frac{11}{12}$ is less than $\frac{12}{12}$.

Expected

4b. Tony is incorrect because he has added $\frac{2}{12}$ but the model shows $\frac{3}{12}$ so the answer should be $\frac{11}{12}$.

5b. $\frac{1}{12} + \frac{2}{6} + \frac{1}{2} = \frac{11}{12}$

6b. True because $\frac{17}{28}$ is more than $\frac{12}{28}$.

Greater Depth

7b. Noel is correct because $\frac{1}{14} + \frac{2}{6} + \frac{1}{2} + \frac{1}{21} = \frac{40}{42}$. He could also have given this answer as $\frac{20}{21}$.

8b. $\frac{2}{30} + \frac{4}{10} + \frac{2}{5} = \frac{26}{30}$

9b. True because $\frac{26}{30}$ is more than $\frac{21}{30}$.

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