Solve the word problems using the RDW strategy. Show all of your work.

1. In a race, the second-place finisher crossed the finish line $1 \frac{1}{2}$ minutes after the first-place finisher. The third-place finisher was $\frac{3}{4}$ minutes behind the second-place finisher. The third-place finisher took $\frac{34}{3}$ minutes. How long did the first-place finisher take?

   Race
   
   1st. $3\frac{1}{2}$ min. | 2nd. $1\frac{1}{2}$ min. | 3rd. $3\frac{4}{3}$ min. | 1st place finished in $31\frac{1}{2}$ minutes.

   $34\frac{2}{3} - 1\frac{1}{2} - 1\frac{3}{4} = \frac{34}{3} - \frac{3}{4} - \frac{1}{2} = \frac{33}{3} - \frac{3}{4} - \frac{1}{2} = 32\frac{1}{2} - 1\frac{1}{2} = 31\frac{1}{2}$

2. John used $1\frac{3}{4}$ kg of salt to melt the ice on his sidewalk. He then used another $3\frac{1}{2}$ kg on the driveway. If he originally bought 10 kg of salt, how much does he have left?

   Salt
   
   $1\frac{3}{4}$ kg | $3\frac{1}{2}$ kg | 10 kg

   $1\frac{3}{4} + 3\frac{1}{2} = 1\frac{15}{20} + 3\frac{1}{20} = 4\frac{31}{20} = 5\frac{1}{20}$

   He has $4\frac{9}{20}$ kg of salt left.

3. Sinister Stan stole $3\frac{3}{4}$ oz of slime from Messy Molly, but his evil plans require $6\frac{3}{8}$ oz of slime. He stole another $2\frac{3}{5}$ oz of slime from Rude Ralph. How much more slime does Sinister Stan need for his evil plan?

   Slime
   
   $3\frac{3}{4}$ oz | $2\frac{3}{5}$ oz | $6\frac{3}{8}$ oz

   He still needs $2\frac{5}{8}$ oz of slime.

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

   $5\frac{8}{10} + \frac{3}{8} = 2\frac{25}{40} - \frac{12}{40} - \frac{1}{40}$
4. Gavin had 20 minutes to do a three-problem quiz. He spent $9 \frac{3}{4}$ minutes on question 1 and $3 \frac{4}{5}$ minutes on question 2. How much time did he have left for question 3? Write the answer in minutes and seconds.

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quiz: [9 \frac{3}{4}, 3 \frac{4}{5}, ?] 20 min

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9 \frac{15}{20} + 3 \frac{11}{20} = 12 \frac{26}{20} = 13 \frac{11}{20}
\]

\[
20 - 13 \frac{11}{20} = 6 \frac{9}{20} = 6 \frac{21}{60}
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He has 6 min. and 21 sec. for question 3.
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5. Matt wants to save $2 \frac{1}{2}$ minutes on his 5K race time. After a month of hard training, he managed to lower his overall time from $21 \frac{1}{2}$ minutes to $19 \frac{1}{4}$ minutes. By how many more minutes does Matt need to lower his race time?

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21 \frac{1}{2} - 19 \frac{1}{4} = 21 \frac{4}{20} - 19 \frac{5}{20} = \frac{19}{20} \text{ already saved}

\[
\frac{19}{20} = \frac{19}{20} \text{ need to save}
\]

He still needs to lower his time by $\frac{11}{20}$ of a minute
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