G5-M3-Lesson 10

1. Add.

I'll add the whole numbers first and then add the fractions. $4 + 2 = 6$

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

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

I need to make like units before adding.

$= 6 + \frac{6}{15} + \frac{5}{15}$

I can rename these fractions as a number of fifteenths. $\frac{2}{5} = \frac{6}{15}$, and $\frac{1}{3} = \frac{5}{15}$.

$= 6 + \frac{11}{15}$

$= 6\frac{11}{15}$

The sum is $6\frac{11}{15}$.

I'll add the whole numbers together. $5 + 10 = 15$.

b. $5\frac{2}{7} + 10\frac{3}{4} = 15 + \frac{2}{7} + \frac{3}{4}$

$= 15 + \left(\frac{2 \times 4}{7 \times 4}\right) + \left(\frac{3 \times 7}{4 \times 7}\right)$

When I look at $\frac{2}{7}$ and $\frac{3}{4}$, I decide to use 28 as the common unit, which will be the new denominator.

$\frac{2}{7} = \frac{8}{28}$

$\frac{3}{4} = \frac{21}{28}$

$= 15 + \frac{8}{28} + \frac{21}{28}$

$= 15 + \frac{29}{28}$

$= 15 + \frac{28}{28} + \frac{1}{28}$

I know $\frac{29}{28}$ is more than 1. So, I'll rewrite $\frac{29}{28}$ as $\frac{28}{28} + \frac{1}{28}$.

$= 16\frac{1}{28}$

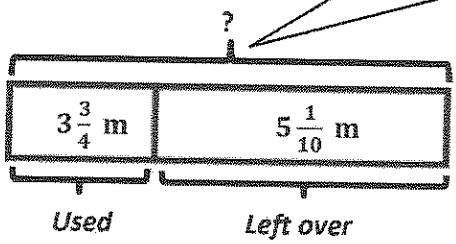
The sum is $16\frac{1}{28}$.

2. Jillian bought some ribbon. She used $3\frac{3}{4}$ meters for an art project and had $5\frac{1}{10}$ meters left. What was the original length of the ribbon?

I can add to find the original length of the ribbon.

I draw a tape diagram and label the used ribbon $3\frac{3}{4}$ meters and the leftover ribbon $5\frac{1}{10}$ meters.

I label the whole ribbon with a question mark because that's what I'm trying to find.



I'll add 3 plus 5 to get 8.

I need to rename fourths and tenths as a common unit before adding. When I skip-count, I know that 20 is a multiple of both 4 and 10.

$$3\frac{3}{4}+5\frac{1}{10}=8+\frac{3}{4}+\frac{1}{10}$$
$$=8+\left(\frac{3\times5}{4\times5}\right)+\left(\frac{1\times2}{10\times2}\right)$$
$$=8+\frac{15}{20}+\frac{2}{20}$$
$$=8\frac{17}{20}$$

$\frac{3}{4}=\frac{15}{20}$, and $\frac{1}{10}=\frac{2}{20}$.

The original length of the ribbon was $8\frac{17}{20}$ meters.