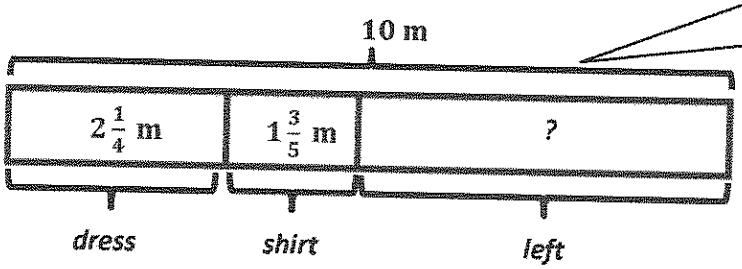
G5-M3-Lesson 15

1. Nikki bought 10 meters of cloth. She used $2\frac{1}{4}$ meters for a dress and $1\frac{3}{5}$ meters for a shirt. How much cloth did she have left?

There are different ways to solve this problem. I could subtract the length of the dress and the shirt from the total length of the cloth.

I'll draw a tape diagram and label the whole as 10 m and the parts as $2\frac{1}{4}$ m and $1\frac{3}{5}$ m.



I'll label the part that's left with a question mark because that's what I'm trying to find.

I can subtract the whole numbers first.
$10 - 2 - 1 = 7$

$$10 - 2\frac{1}{4} - 1\frac{3}{5}$$
$$= 7 - \frac{1}{4} - \frac{3}{5}$$
$$= 7 - \frac{5}{20} - \frac{12}{20}$$
$$= 6\frac{20}{20} - \frac{5}{20} - \frac{12}{20}$$
$$= 6\frac{3}{20}$$

I can rename these fractions as twentieths in order to subtract.
$\frac{1}{4} = \frac{5}{20}$, and $\frac{3}{5} = \frac{12}{20}$.

I need to rename 7 as $6\frac{20}{20}$ so I can subtract.

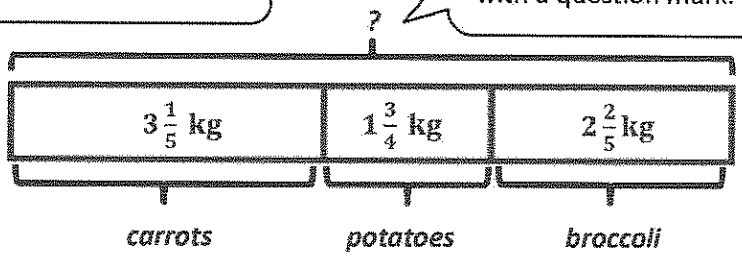
She had $6\frac{3}{20}$ meters of cloth left.

2. Jose bought $3\frac{1}{5}$ kg of carrots, $1\frac{3}{4}$ kg of potatoes, and $2\frac{2}{5}$ kg of broccoli. What's the total weight of the vegetables?

I'll use addition to find the total weight of the vegetables.

I can draw a tape diagram and label the parts as carrots, potatoes, and broccoli.

I have to find the total weight of all the vegetables, so I'll label the whole with a question mark.



I can add the whole numbers.

$3 + 1 + 2 = 6$

$$3\frac{1}{5} + 1\frac{3}{4} + 2\frac{2}{5}$$
$$= 6 + \frac{1}{5} + \frac{3}{4} + \frac{2}{5}$$
$$= 6 + \frac{4}{20} + \frac{15}{20} + \frac{8}{20}$$
$$= 6 + \frac{27}{20}$$
$$= 6 + \frac{20}{20} + \frac{7}{20}$$
$$= 7\frac{7}{20}$$

I need to rename the fractions with a common unit of twentieths.

$\frac{1}{5} = \frac{4}{20}$, $\frac{3}{4} = \frac{15}{20}$, and $\frac{2}{5} = \frac{8}{20}$.

$\frac{27}{20} = \frac{20}{20} + \frac{7}{20} = 1\frac{7}{20}$

The total weight of the vegetables is $7\frac{7}{20}$ kilograms.