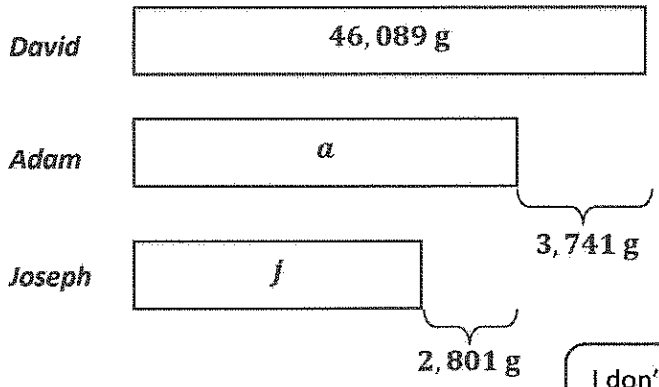
G4-M2-Lesson 5

1. David weighs 46 kilograms 89 grams. Adam weighs 3,741 grams less than David. Joseph weighs 2,801 grams less than Adam. How much does Joseph weigh?



$a = 46,089\text{ g} - 3,741\text{ g}$

$a = 42,348\text{ g}$

$$\begin{array}{rrrrrr} & & {}^{5}\not{4} & {}^{10}\not{0} & & \\ & 4 & \not{6}, & \not{0} & 8 & 9\ \text{g} \\ - & & 3, & 7 & 4 & 1\ \text{g} \\ \hline & 4 & 2, & 3 & 4 & 8\ \text{g} \end{array}$$

I don't know Adam's weight. I label this unknown with letter a. I subtract to solve for a.

$j = 42,348\text{ g} - 2,801\text{ g}$

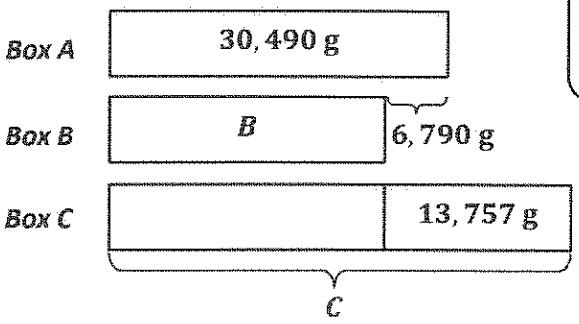
$j = 39,547\text{ g}$

$$\begin{array}{rrrrrr} & {}^{3}\not{4} & {}^{11}\not{2}, & {}^{13}\not{3} & 4 & 8\ \text{g} \\ - & & 2, & 8 & 0 & 1\ \text{g} \\ \hline & 3 & 9, & 5 & 4 & 7\ \text{g} \end{array}$$

Now that I know Adam's weight, I solve for j (Joseph's weight).

Joseph weighs 39,547 grams.

2. Box A weighs 30 kilograms 490 grams. Box B weighs 6,790 grams less than Box A. Box C weighs 13 kilograms 757 grams more than Box B. What is the difference, in grams, between the weights of Box C and Box A?



I know Box B weighs 6,790 grams less than Box A. I label this part and subtract to solve for "B". Box B weighs 23,700 g.

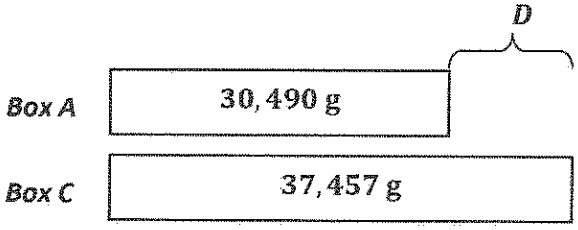
$B = 30,490\text{ g} - 6,790\text{ g}$

$B = 23,700\text{ g}$

$$\begin{array}{rrrrrr} & {\scriptstyle 2} & {\scriptstyle 9} & {\scriptstyle 14} & & \\ & \cancel{3} & \cancel{0}, & \cancel{4} & 9 & 0\ \text{g} \\ - & & 6, & 7 & 9 & 0\ \text{g} \\ \hline & 2 & 3, & 7 & 0 & 0\ \text{g} \end{array}$$

I know Box C weighs 13,757 grams more than Box B. If Box B weighs 23,700 grams, I can add to find "C". Box C weighs 37,457 g.

$$\begin{array}{rrrrrr} & 2 & 3, & 7 & 0 & 0\ \text{g} \\ + & 1 & 3, & 7 & 5 & 7\ \text{g} \\ \hline & & {\scriptstyle 1} & & & \\ & 3 & 7, & 4 & 5 & 7\ \text{g} \end{array}$$



I know the weights of Boxes A and C. I can subtract to find the difference, D.

$D = 37,457\text{ g} - 30,490\text{ g}$

$D = 6,967\text{ g}$

$$\begin{array}{rrrrrr} & & {\scriptstyle 6} & {\scriptstyle 13} & {\scriptstyle 15} & \\ & 3 & \cancel{7}, & \cancel{4} & \cancel{5} & 7\ \text{g} \\ - & 3 & 0, & 4 & 9 & 0\ \text{g} \\ \hline & & 6, & 9 & 6 & 7\ \text{g} \end{array}$$

The difference between the weights of Box C and Box A is 6, 967 g.