

1. $A = 3, B = 2$

2. 87,503

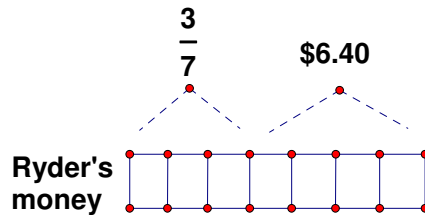
3. First let's find Michelle's brother's weight. We must subtract $4\frac{1}{3}$ from 21. We can do this in steps. First we subtract 4 from 21, so $21 - 4 = 17$. Now we subtract $\frac{1}{3}$ from 17. We can make $\frac{17}{1}$ and $\frac{1}{3}$ have the same denominator by multiplying $\frac{17}{1} \times \frac{3}{3} = \frac{51}{3}$. Now we subtract: $\frac{51}{3} - \frac{1}{3} = \frac{50}{3} = 16\frac{2}{3}$. Now we find their total weight in kg. $21 + 16\frac{2}{3}$. Just add the whole number parts and fraction parts, and we get $37\frac{2}{3}$ kg.

4. \$36.05

5. 60

6. 14

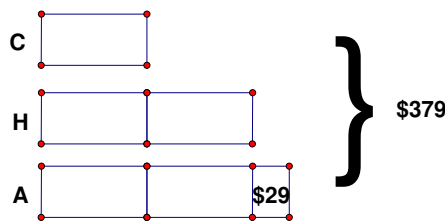
7. Let's make a bar diagram representing Ryder's money. We will split it into 7 small boxes. We label 3 of the small boxes the $\frac{3}{7}$ Ryder spent on the shirt, and the other 4 boxes represent \$6.40.



If 4 boxes represent a total of \$6.40, then 1 box must be $\$6.40 \div 4 = \1.60 . So if Ryder has 7 boxes each worth \$1.60, then he had $7 \times \$1.60 = \11.20 at first.

8. When in doubt, box diagram!

We start with Christopher, who gets one box. Then Hunter gets twice as much as Christopher, so Hunter gets two boxes. Then Alex receives \$29 more than Hunter, so Alex gets two boxes plus \$29.

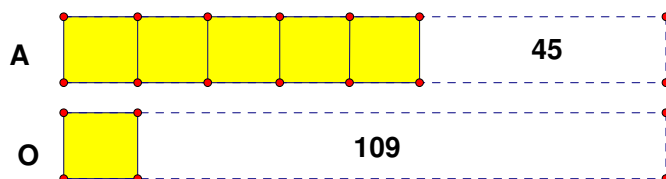


So we see that 5 boxes + \$29 = \$379. This means that 5 boxes = $\$379 - \$29 = \$350$. So if the 5 boxes together represents \$350, then each box represents $\$350 \div 5 = \70 . So Alex will get 2 boxes + \$29, which is $2 \times \$70 + \$29 = \$169$.

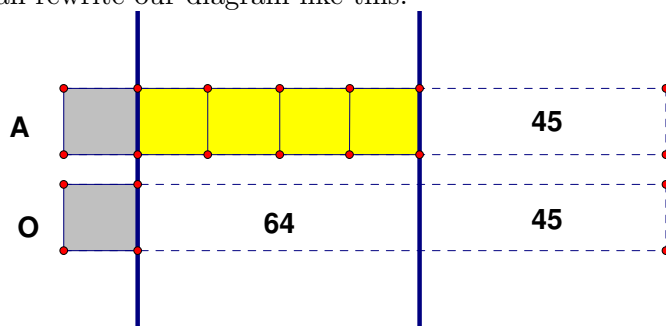
9. 30

10. Again, we will turn to box diagrams for help.

First the store starts with an equal number of apples and oranges, so two equal bars. Then it sells some apples and oranges, and the remaining oranges will be 1 box and the remaining apples will be 5 boxes.



Now we need to figure out how many fruits each yellow box represents. Notice that we can just cut off the ends of the diagram. We can cut off one yellow box from the left of the diagram, and we can cut off 45 from the right of each diagram. We know that $109 - 45 = 64$, so we can rewrite our diagram like this:



Now we can see that 4 boxes = 64. So each box represents $64 \div 4 = 16$ fruits. So at first, we had $16 + 109 = 125$ oranges, and at first, we had $5 \times 16 + 45 = 80 + 45 = 125$ apples. So originally, we had $125 + 125 = \boxed{250}$ fruits.