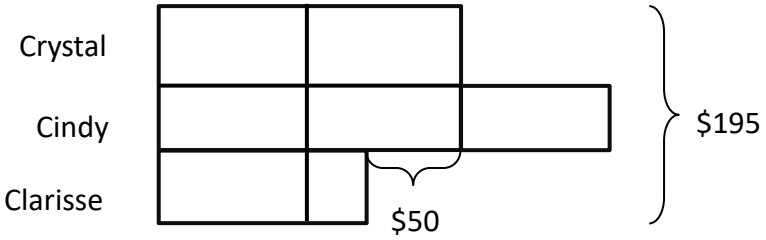
Breeze Education

Skill Set 20 –Comparing numerators (Percentage)

Crystal, Cindy, and Clarisse have $195 in total. 30% of Crystal's money is equal to 20% of Cindy's money. Clarisse has $50 less than Crystal. How much money do Crystal and Cindy have altogether?

Inverse proportion – 30% of Crystal's money is equal to 20% of Cindy's money implies that Cindy has more money that Crystal.
Comparing fractions – Both 30% ($\frac{30}{100}$) and 20% ($\frac{20}{100}$) have the same denominators. There is an inverse relationship when comparing the numerators, thus Crystal will have 2 units and Cindy will have 3 units.

$$\frac{\text{Crystal's Money}}{\text{Cindy's Money}} = \frac{20\%}{30\%} = \frac{2}{3}$$



$195 + $50 = $245

7 units = $245
1 unit = $245 ÷ 7 = $35
5 units = $35 x 5 = **$175**

Crystal and Cindy have **$175** altogether.

(**Since 1 unit = $35, $50 in the original model should be bigger. However, the student will not know in the beginning, that, $50 is less than 1 unit or more than 1 unit. This is fine as long as Clarisse is drawn to show that she has $50 less than Cindy**.)