

MathFLIX CHALLENGE

Mathematical Modeling: Parts-to-Whole - Two Step Problems

Study the information provided below to complete the table.

Problem	Model	Algebra	Solution					
Anna is twice as old as her brother Ari. If their total age is 30, how old is each?	Anna <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table> Ari <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td></tr></table>				$\begin{array}{r} \text{Ari} \quad 1x \\ \text{Anna} \quad + \frac{2x}{30} \\ \hline 1x + 2x = 30 \end{array}$	Anna ____ Ari ____		
Anna weighs 3 times as much as her brother, Ari. If their total weight is 160 pounds, how much does each weigh?		$\begin{array}{r} \text{Ari} \quad 1x \\ \text{Anna} \quad + \frac{3x}{160} \\ \hline 1x + 3x = 160 \end{array}$	Anna ____ Ari ____					
Anna spent 5 times as much as her brother Ari on a Halloween costume. If they spent \$30, how much did each spend?		$\begin{array}{r} \text{Ari} \quad 1x \\ \text{Anna} \quad + \frac{5x}{30} \end{array}$	Anna ____ Ari ____					
Anna spent 10 times as much time studying for her college math test as Ari spent studying for his 5 th grade math test. Together they spent 165 minutes studying. How much time did each study?								
Jamal is three times as old as his twin sisters, Haala and Maala. If their total age is 30, how old is each?	Jamal <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table> Haala <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td></tr></table> Maala <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td></tr></table>							
Jamal weighs 3 times as much as his twin sisters. If their total weight is 160 pounds, how much does each weigh?								
Jamal spent 25 times as much as each of his twin sisters on a birthday present for their mother. If they spent a total of \$27, how much did each spend?								
Mr. Garcia is three times as old as Maria, his daughter. Maria is twice as old as her brother, Jose. If their total age is 54 years, how old is each one?								
The Kwan family spent \$60 on gifts. Mrs Kwan spent twice as much as Mr. Kwan. She spent 4 times as much as her daughter and 8 times as much as her son. How much did each spend?								