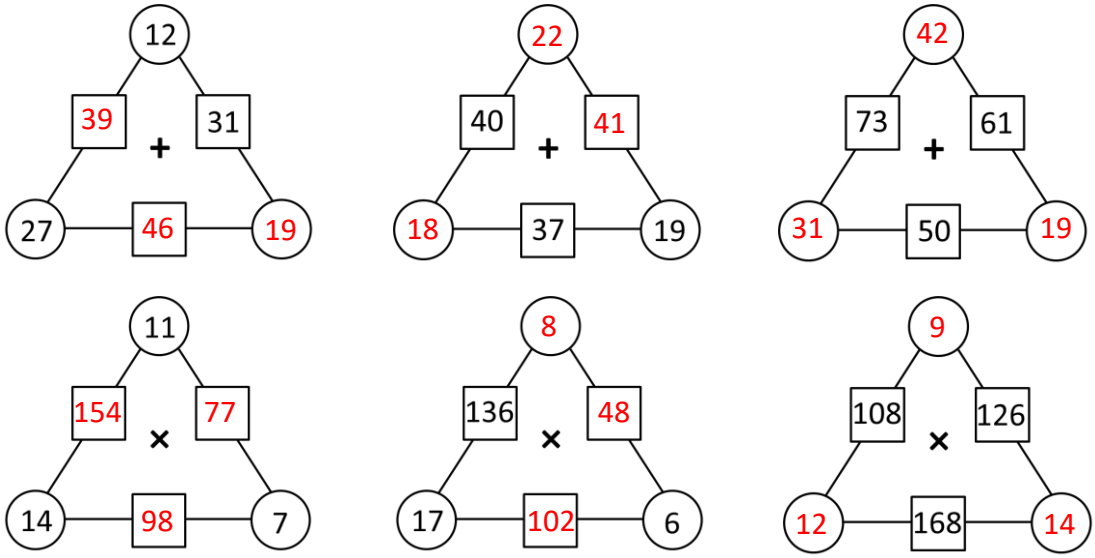
Weekly Challenge #7: Classic Number Challenges Answers

Welcome to the Count on Us Secondary Challenge's seventh weekly challenge. In the coding and algebra round, there can be unexpected puzzles or problems that you won't know and cannot prepare for. Two years ago, in the final, teams had to solve arithmagons to complete the task. This challenge starts with those arithmagons and then follows with a selection of classic number puzzles to give an idea of what you might see.

Arithmagons: The number in the square is the sum or product of the numbers in the circles at the ends of the line it is in (look in the centre of the arithmagon).



Make 100: Move the digits and put in $+$, $-$, $\times$, $\div$ where you want to make this true.

$$1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad = \quad 100$$

Four fours: Make each of the numbers for 1 to 20 with this rule: use the number 4, exactly four times for each number. You can add, subtract, multiply or divide and combine the fours as you like.

For 'Make 100' and 'Four fours', there are too many solutions to give one. You know if yours are correct!

Taxi Cab Number: $1729 = 1^3 + 12^3 = 1 + 1728$ and $1729 = 9^3 + 10^3 = 729 + 1000$

Order two because it is the sum of two cubes in **two** different ways. Fans of Futurama will have seen a taxi cab number of order 3 (the sum) of two cubes in **three** different ways. Look it up!

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Keep them coming and remember - tag us and your school in any online activity.

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