

## Mathletes Problem of the Week #14

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### Time Travel



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On your 13<sup>th</sup> birthday you receive three different time-travel watches. Each of these has a pedometer in it that measures the steps you take. If you use Watch A and take exactly 7 steps forward, you will go back 4 months in time. If you use Watch B and take exactly 5 steps backward, you will go back 7 months in time. If time you use Watch C and take exactly 2 steps forward, you will go back 3 months in time.

- Which watches and what sequence of steps could you take to go back to your 12<sup>th</sup> birthday? *(There is more than one way to do it. How many can you find? Which one takes the most steps? Which one takes the least?)*
- Which watches and what sequence of steps could you take to go back to your 11<sup>th</sup> birthday? *(There are several ways to do it. How many can you find? Which one takes the most steps? Which one takes the least?)*
- If you use some watches and take a total of 24 steps, how many months back could you have travelled? *(There are several possibilities. How many can you find? Which one takes you the farthest? Which one takes you the shortest?)*
- Imagine you travelled back to your 8th birthday. You made a total of 25 backward steps. Which watches did you use and how many forward steps did you take? *(There is more than one way you could have done it. How many can you find? What is the fewest number of forward steps you could have taken?)*

**Solutions & Explanations:** (Try one or try them all! Record your solutions and reasoning here and on the back.)

Name \_\_\_\_\_ Class \_\_\_\_\_

**(First and last name, please!)**

**Solutions due: April 3<sup>rd</sup>**