Problem of the Week

Problem B

Funky Friday

Some people believe that 'Friday the 13th' brings bad luck. In 2026, the 13th of the month falls on a Friday three times: in February, March, and November.

The table below summarizes the occurrences of Friday the 13th each year for 2015 to 2026, and lists the day of the week that January 1st occurred on in that year.

Year	Months with a Friday the 13th	Day of week January 1 was on
2026	February, March, November	Thursday
2025	June	Wednesday
2024	September, December	Monday
2023	January, October	Sunday
2022	May	Saturday
2021	August	Friday
2020	March, November	Wednesday
2019	September, December	Tuesday
2018	April, July	Monday
2017	January, October	Sunday
2016	May	Friday
2015	February, March, November	Thursday

(a) In this twelve year sample, what is the average number of months in a year with a Friday the 13th? Write your answer as a decimal rounded to the nearest hundredth, and explain what that number means in terms of how these dates occur.

(b) The years 2016 and 2022 both have a Friday the 13th only in May, but those years did not start on the same day of the week. Explain how this can happen.

(c) Both 2020 and 2025 began on a Wednesday. Why do they have different months with a Friday the 13th?

(d) Do you think that every year with three months with a Friday the 13th must start on a Thursday? Why, or why not?
SUGGESTION: Try doing some research about this on the internet.

THEME: DATA MANAGEMENT