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DETECTION
Fraud Detection

Every time you go online, you produce a **digital footprint.**

This is the data created with every email, web search, online purchase, etc.

Fraud Detectives analyze this data to monitor for signs of fraud.

But what is **fraud?** Write or draw your ideas here.

Digital Footprint
a trail of data you create while using the Internet

If you said a fake, or someone pretending to be someone else, you are correct!

Take a look at the footprints below.

Circle the prints you detect are possible examples of fraud.

Now imagine you are the **Fraud Detective.**

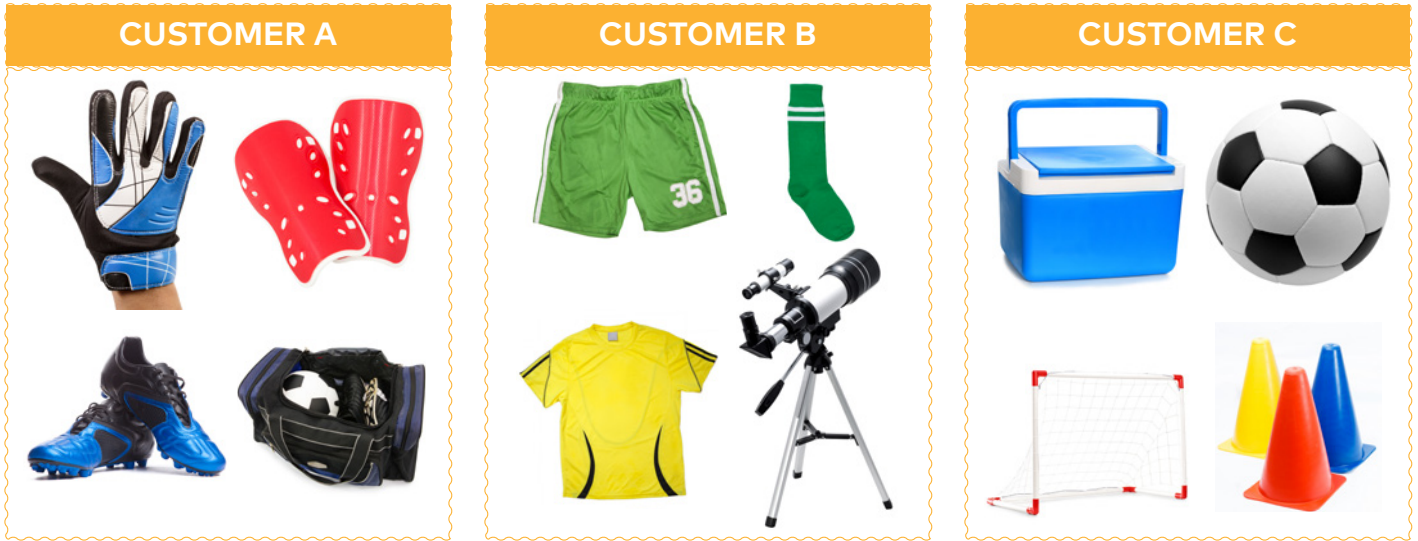It's your job to analyze patterns and look for when something doesn't fit the pattern

Fraud
wrongful deception for personal or financial gain

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Fraud Detection

Let's look at the online purchases made by three customers.

CUSTOMER A	CUSTOMER B	CUSTOMER C

Customer	Do you suspect fraud?	Why or why not?
A		
B		
C		

DETECTION
Fraud Detection

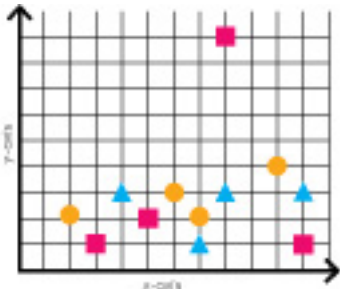Still not sure if there is fraud?

Let's show the data for each customer on a graph and look at the data clusters.

A **data cluster** is a group of related information, in this case, about customer purchases.

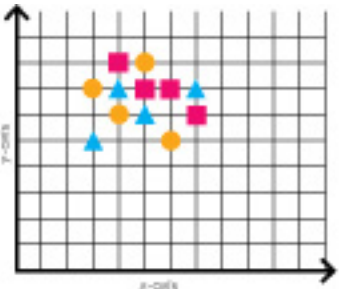**Which graph is the best match for each customer's purchases?**

Look back at the photos and write the Customer letter below each one.
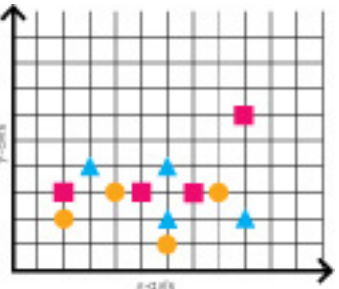
GRID 1	GRID 2	GRID 3

Customer_____   Customer_____   Customer_____

🟡 How often are soccer-related items purchased?

🔺 Where are the soccer-related items purchased?

🟥 What type of soccer-related items are purchased?

How did you do? Check your answers below.

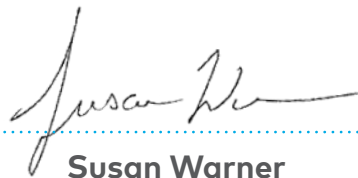| GRID 1	GRID 2	GRID 3
This graph shows one point far away from all the others. This is a purchase that is outside the cluster. It does not fit the pattern. It is possible fraud! Customer B bought three soccer items and a telescope? This purchase does not seem to fit the pattern.	This graph shows all of the points clustered together. They all fit the pattern. No fraud here! Customer A bought four items all related to soccer. These purchases all fit the pattern.	This graph shows one point slightly removed from the cluster. When we investigate further, we see that Customer C bought three soccer items and a picnic cooler. Is it fraud? But couldn't this be used for soccer practice? Use your intuition!

You are a Girls4Tech Fraud Detective!

Congratulations!

You are a certified

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FRAUD DETECTIVE

Michael Miebach
CEO, Mastercard

Susan Warner
Founder, Girls4Tech