

# Distribution Dragging and Dropping

The screenshot shows a web interface for a statistics exercise. On the left, a sidebar contains the exercise title "Distribution dragging and dropping", a description, instructions, and a feedback section. The main area features three columns for distributions: Poisson, Exponential, and Binomial. A purple box at the top right prompts the user to "Drag the items into the correct bucket". A "Submit Answer" button is at the bottom right.

**Exercise**

**Distribution dragging and dropping**

By this point, you've learned about so many different probability distributions that it can be difficult to remember which is which. In this exercise, you'll practice distinguishing between distributions and identifying the distribution that best matches different scenarios.

**Instructions** 100XP

- Match each situation to the distribution that best models it.

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**Incorrect**

This scenario represents a count in a period of time.

Did you find this helpful? ✓ Yes ✗ No

**Poisson**

- Number of products sold each week ✓
- Number of customers that enter a store each hour ✓

**Exponential**

- Amount of time until the next customer makes a purchase ✓
- Amount of time until someone pays off their loan ✓

**Binomial**

- Number of people from a group of 30 that pass their driving test ✓

**Drag the items into the correct bucket**

Drop items here

📝 Submit Answer

## Question:

Match each situation to the distribution that best models it. This exercise involves identifying and distinguishing between Poisson, Exponential, and Binomial distributions based on the scenarios provided.

## Explanation of the Question:

Different probability distributions are used to model specific types of random phenomena. This task tests your ability to classify scenarios based on whether they fit the Poisson (counts over time), Exponential (time between events), or Binomial (success/failure in trials) distribution.

## Answer:

Correct Matching:

1. Poisson Distribution:

- Number of products sold each week
- Number of customers that enter a store each hour

2. Exponential Distribution:

- Amount of time until the next customer makes a purchase
- Amount of time until someone pays off their loan

3. Binomial Distribution:

- Number of people from a group of 30 that pass their driving test

## Explanation of the Answer:

The Poisson distribution models counts of events within a fixed period or space, such as products sold or customers entering a store. The Exponential distribution models the time between events, like time until a purchase or loan payoff. The Binomial distribution models discrete trials with two outcomes, such as passing or failing a test in a group.