

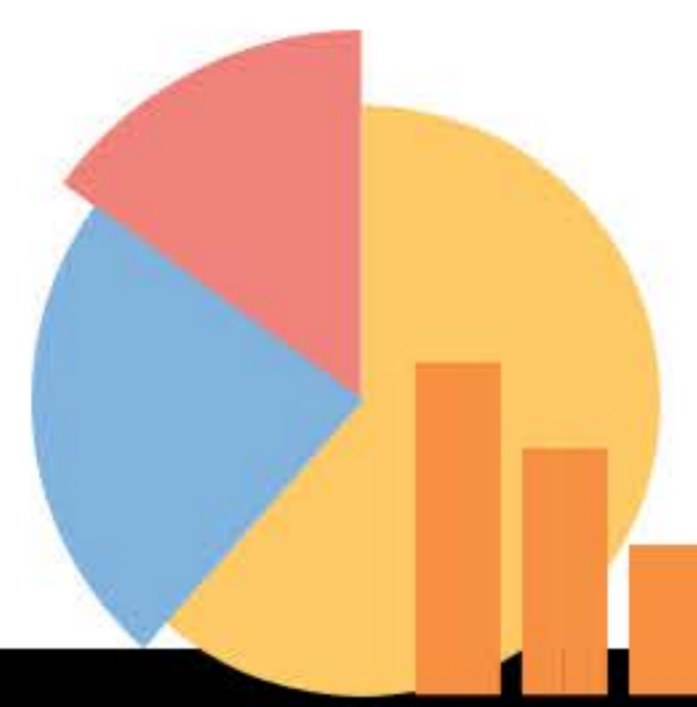
STATISTICS IN THE REAL WORLD



PURCHASING A HOUSE

When buying a house or other property, understanding statistics can save you some major dough!

- For example, learning the difference between the statistical mean (average) and the statistical median (middle) can help you decide whether a house's price is a fair price for that neighborhood. The mean price of a house in a neighborhood is just the average price (add up all the prices in that neighborhood and divide by the number of prices). The median price is the middle price; half the prices in the neighborhood are higher than that price, and half are lower. Unlike the median price, the mean price can be greatly skewed by one or two incredibly expensive or super cheap houses. Therefore, knowing the difference between the statistical mean (average) and the statistical median (middle) can help you from getting tricked by a shady realtor.



UNDERSTANDING ELECTION POLLS

Election polls are a popular way to predict your favorite candidate's chances of winning an election. Knowing statistics is essential to understanding what these polls can and can't tell us.

- For example, learning the statistical concept, margin of error, can help us understand how reliable an election poll is. Poll data are gathered through sampling, which means data are sampled from a larger population. Although only a sample of the population is tested – or in the case of an opinion poll, asked questions – the sample is used to make predictions about the population as a whole. How well the sample matches the population is one of the factors that directs how reliable the poll is. Therefore, when looking at polls, it's important to find out what the margin of error is. If the margin of error is too big, don't believe it!



UNDERSTANDING UNUSUAL EVENTS

Have you ever tried to make sense of a really great test score (will you be able to repeat that amazing performance?) or heard about the "Sports Illustrated Jinx" (why does it seem that your favorite team has nosedived)? You need statistics to understand these unusual events!

- For example, understanding the statistical concept "regression to the mean" can help us make sense of the Sports Illustrated Jinx, which is a player or team's inevitably poor performance after appearing on the cover of Sports Illustrated. Regression to the mean is a fancy way of saying that things even out over time. So, if a sports team or player has a really stellar year and ends up on the cover of Sports Illustrated, it's likely that the next year they won't be as amazing. That's not because they are jinxed, but instead because they are regressing to the mean; their performance is just evening back out to average over time!



DRAFTING A FANTASY SPORTS TEAM

Fantasy sports teams have become a popular pastime for many people around the globe. Did you know that drafting a team for one of these leagues involves all sorts of statistical knowledge?!

- For example, when drafting a team it is important to know how players are performing in their positions and to do this, you need to look at their statistical records from previous games. Understanding the mean (average) yards gained per run for a running back or the correlation (relationship) between passing yards and pass touchdowns for a quarterback are important statistics to understand when drafting a fantasy football team. If a running back is only averaging 2 yards per run, or a quarterback's passing yards are uncorrelated with their pass touchdowns, you might want to think twice about selecting them for your team!

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