Interpretation

The median grade in the class was 72%

- Half the class got less than 72%, half got more.

The mean of the age distribution in this community is 37.

- The "balance point" of the distribution is 37; for a sample, the average age (sum of ages divided by number of individuals) is 37.

The standard deviation of the speeds is 5 mph.

- On average, speeds are roughly 5 mph away from the mean.

$P(A \text{ and } B) = 0.2$, where A and B are events.

- The probability that A and B both happen is 20%.

$P(A \mid B) = 0.2$, where A and B are events

- The probability that A happens, given that B has already happened, is 20%. In other words, if B happens, there's a 20% chance that A happens too. Or, 20% of the time that B happens, A happens too.

The 95% confidence interval for the mean income in the city is ($28,000, $34,000).

- The sampling and calculation procedure that generated this interval has a 95% chance of generating an interval that contains the mean income of the population. In other words, if 100 intervals are generated using this procedure, on average 95% of them will contain the true mean.

At the 90% confidence level, the margin of error is $\pm 3\%$ in the results of the poll of support for Candidate A.

- There is a 90% chance that the true proportion of the population supporting Candidate A is within $\pm 3\%$ of the poll results. For example, if the poll shows 58% support, we can be reasonably confident that between 55% and 61% of the population support the candidate.

In deciding whether people in Country A have higher than blood pressure the average of 120 mmHg, researchers report a P-value of 3.5%.

- If the people in Country A have average blood pressure of 120 mmHg, there's a 3.5% chance of finding a sample with blood pressure as high as the researchers found.

The z-value of this statistic is 2.0.

- This statistic is 2 standard deviations above the mean.

In investigating whether a new medicine speeds a patient's recovery, we are led to reject the null hypothesis.

- If the new medicine leaves the time to recovery unchanged, there is an extremely small chance that we would get experimental results we did. Thus, we conclude that the new medicine does not leave the time to recovery unchanged. Since the assumption that the new medicine leaves the time to recovery unchanged is called the null hypothesis, we say we have rejected the null hypothesis.

In a poll to predict whether Candidate X will get the 50% required to win the election, we do not find sufficient evidence to reject the null hypothesis.

- We cannot say that Candidate X will get over 50%.