

Name: _____

More/less

1. Suppose that treatment A is 85% more effective than treatment B. How many percent less effective is treatment B than treatment A?
2. (Deleted)

Increase/Decrease

3. Suppose that at one time, 2% of the population likes coconut chewing gum, but then thanks to an advertising blitz, that value increases by 400%. Write the corresponding percent decrease of the other 98% of the population. Also, what is the final percentage of the population that still doesn't like coconut chewing gum? Hint: 100% of 2 is 2, 200% of 2 is 4, and so on.
4. Or, suppose, when given a choice, 0.3% of the population chooses onion rings and the rest choose French fries. If a year later, the onion ring choosers have increased by 500%, what is the corresponding decrease of the other 99.7% of the population? Also, what is the final percentage of the population that still prefers French fries?

Inference and z-tests

5. Deleted

6. Deleted

Binomial Distributions

7. Suppose that we flip a (regular) coin 100 times.
- What's the probability that it will be heads exactly 50 times?
 - What's the probability that it will be tails exactly 45 times?
8. Suppose a large bag of candied chocolates comes in 6 colors, randomly mixed in equal proportions in the bag. You reach into the bag without looking, and pull out 30 pieces.
- What's the probability that you got 3 red candies?
 - What's the probability that you got 5 blue candies?

Poisson Distributions

9. Suppose that for trick-or-treat, you have a large bowl of individually wrapped SugarBombs. Kids who come to your house each grab a handful, but since the kids are different sizes, so are their handfuls. After watching 78 kids grab "handfuls", you use your calculator to determine that the average handful holds 8.6 SugarBombs.
- What's the probability that the next kid will grab 8 SugarBombs?
 - What's the probability that the next kid will grab 6 SugarBombs?
 - What's the probability that the next kid will grab 10 SugarBombs?
10. At the safari rescue center, which has kept data over 37 years, it is discovered that the average baby leopard has 18 spots.
- What is the probability that the next baby leopard will have 18 spots?
 - What is the probability that the next baby leopard will have 18 or fewer spots?