

ICME Intro to Stats Summer Workshop

Section 3 Exercises

2023-07-24

1. Use the following information to answer the next exercise: The time of occurrence of the first accident during rush-hour traffic at a major intersection is uniformly distributed between the three hour interval 4 p.m. to 7 p.m. Let X = the amount of time (hours) it takes for the first accident to occur.

Assume Ramon has kept track of the times for the first accidents to occur for 40 different days. Let C = the total cumulative time. Then C follows which distribution?

- A. Uniform:

$$U(0, 3)$$

- B. Binomial:

$$\text{Binomial}(n = 40, p = 0.5)$$

- C. Normal:

$$N(60, 5.477)$$

- D. Normal:

$$N(1.5, 0.01875)$$

2. Use the following information to answer the next exercise: A group of students measured the lengths of all the carrots in a five-pound bag of baby carrots. They calculated the average length of baby carrots to be 2.0 inches with a standard deviation of 0.25 inches. Suppose we randomly survey 16 five-pound bags of baby carrots.

State the approximate distribution for Y , the distribution for the average lengths of baby carrots in 16 five-pound bags.

$Y \sim$ _____