

ECON221 Quiz 04 V26

Assisted Reproductive Technology (ART) is a collection of techniques that help facilitate pregnancy. A 2008 report by the Centers for Disease Control and Prevention estimated that ART has been successful in leading to a live birth in 31% of cases. A new fertility clinic claims that their success rate is higher than average. A random sample of 30 of their patients yielded a success rate of 40%. A consumer watchdog group would like to determine if this provides strong evidence to support the company's claim.

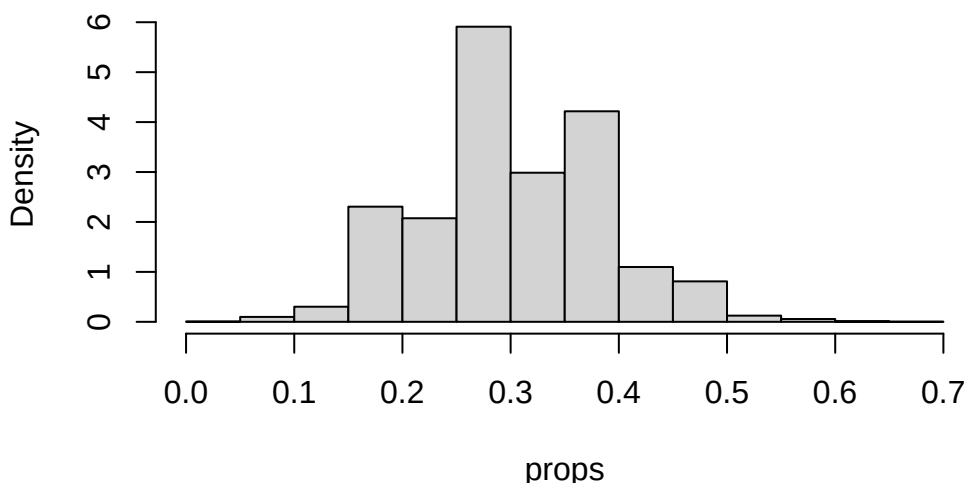
1. (1 point) Write down the two claims to be evaluated.
2. (2 points) Consider the following R code. There are two blanks in the rbinom command.

```
nsim <- 10^4  
a <- replicate(nsim, rbinom(__(i)__,1,__(ii)__))  
props <- colMeans(a)
```

The correct values for (i) is _____ and for (ii) is _____ in order to evaluate which claim is supported by the data.

3. (2 points) Below is a histogram showing the distribution of the statistic of interest in 10,000 simulations under status quo. Shade the part of the histogram that you will be using to assess the claims. Label what needs to be labeled.

Histogram of props



ECON221 Quiz 04 V27

About 13% of the population is left-handed. A biologist suspects that the scientific community is not like the general population in terms of handedness. He asks 200 scientists and finds that 36, are left-handed. Does this data support the biologist's theory?

1. (1 point) Write down the two claims to be evaluated.
2. (2 points) Consider the following R code. There are two blanks in the rbinom command.

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nsim <- 10^4  
a <- replicate(nsim, rbinom(__(i)__,1,__(ii)__))  
props <- colMeans(a)
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The correct values for (i) is _____ and for (ii) is _____ in order to evaluate which claim is supported by the data.

3. (2 points) Below is a histogram showing the distribution of the statistic of interest in 10,000 simulations under status quo. Shade the part of the histogram that you will be using to assess the claims. Label what needs to be labeled.

