

A SRS of 27 potential textbooks for a particular university course was selected and the number of pages for each was recorded. The data and statistics are shown. The mean for the sample was 362.407 pages and standard deviation for the sample was 18.589 pages. Is there evidence at the 0.05 level that the mean number of pages for all potential books for this course is more than 350 pages?

330	332	340
340	350	350
350	350	356
356	356	356
358	358	360
360	366	366
368	370	380
380	380	380
390	400	403

pop: 27 textbooks

$\bar{x}$  = mean length of books

$$H_0: \bar{x} = 350$$

$$H_a: \bar{x} > 350$$

Random ✓

≤ 10% of population ✓

normal ✓



$$t = \frac{\bar{x} - \mu}{s}$$

Stat test 2: T Test

$$\mu_0 = 350$$

$$\bar{x} = 362.407$$

$$s_x = 18.5892$$

$$n = 27$$

$$> \mu_0$$

$$\mu > 350$$

$$t = 3.468$$

$$p = 9.2$$

$$\bar{x} = 362.407$$

$$s_x = 18.5892$$

$$n = 27$$

t is normal

Accept  $H_0$

There's a 9.2% prob. that my null hypothesis was correct.  
There's a 9.2% chance that the mean was as stated in my hypothesis.

$$\alpha = .05$$

pop: all textbooks for some course

$$H_0: \mu = 350 \quad H_a: \mu > 350$$

A SRS is stated in the prompt.

27 textbooks is likely  $\leq 10\%$  of all such textbooks.

The graph of the data is reasonably symmetric with no outliers, so there's no reason for me to believe the population might not be normal.



t-test for a population mean

$$t = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}} = 3.468 \quad p\text{value} = 9.2 \times 10^{-4} \\ df = 26$$

Because my p value ( $9.2 \times 10^{-4}$ )  $< \alpha$  (.05), I'll reject  $H_0$ . There is sig. evidence that the mean # of pages in potential textbooks for this course is more than 350 pages.