

Lesson 10.1 – Day 3

Which grade is more likely to go to prom?



The student council at a large high school is wondering if Juniors or Seniors are more likely to attend Prom. They take a random sample of 50 Juniors and find that 28 are planning on attending Prom. They select a random sample of 45 Seniors and 29 are planning on attending.

Do the data provide convincing evidence that a higher proportion of Seniors are going to prom than Juniors? Use a 5% significance level.

STATE: Parameter:

Statistics:

Hypotheses:

Significance level:

PLAN: Name of procedure:

Check conditions:

Random

10%

Large Counts

(wait... we'll need to use the pooled proportion)

DO: Mean:

Picture for standardizing:

Standard deviation:

General Formula:

Specific Formula:

Work:

Test statistic:

P-value:

CONCLUDE:

Because the p -value of $0.2148 > \alpha = .05$, we fail to reject H_0 .

There is not convincing evidence that a higher proportion of seniors are going to prom.

Lesson 10.1: Day 3: **A Significance Test** for $p_1 - p_2$

Important ideas:

Calculator Shortcut for the **DO** section:

