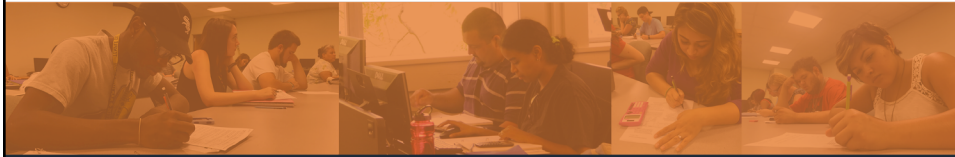




## Supporting Success in AP Statistics - A Vertical Approach

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July 18, 2018



## Engage with the Dana Center

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Conference Hashtag: #gotmath



## About the Dana Center

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— Equity — Access — Excellence —

## Dana Center by the Numbers

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## Dana Center by the Numbers

By the close of 2017, the Dana Center had contributed to the **implementation of math pathways** in higher education systems, institutions, and campuses in **29 states**.



## Dana Center by the Numbers



We engaged with **118 districts in 23 states** to provide middle and high school math courses of the **highest quality**, as recognized by rigorous national and state reviews, including EdReports.org, Louisiana Department of Education, and Texas Education Agency panels.

## Success in AP

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- **Depends on a rigorous, cohesive, and accessible curriculum in courses leading to AP**
- **Requires immersing students in Pre-AP instructional strategies in courses leading to AP**

## Pre-AP Strategies for ALL Students

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- **Comprehensive problems linking key concepts**
- **Contextual word problems**
- **Questions with multiple parts**
- **Information in graphical, numerical and algebraic forms**
- **Justification of solutions in written forms with conclusions drawn from work**
- **Conceptual understanding**

## AP Statistics Outline

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1. Exploring Data: Describing patterns and departures from patterns
2. Sampling and Experimentation: Planning and conducting a study
3. Anticipating Patterns: Exploring random phenomena using probability and simulation
4. Statistical Inference: Estimating population parameters and testing hypotheses

## AP Statistics 2017 Free Response Question 1

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### 2017 AP<sup>®</sup> STATISTICS FREE-RESPONSE QUESTIONS

#### STATISTICS

#### SECTION II

#### Part A

#### Questions 1-5

Spend about 65 minutes on this part of the exam.

Percent of Section II score—75

**Directions:** Show all your work. Indicate clearly the methods you use, because you will be scored on the correctness of your methods as well as on the accuracy and completeness of your results and explanations.

1. Researchers studying a pack of gray wolves in North America collected data on the length  $x$ , in meters, from nose to tip of tail, and the weight  $y$ , in kilograms, of the wolves. A scatterplot of weight versus length revealed a relationship between the two variables described as positive, linear, and strong.

(a) For the situation described above, explain what is meant by each of the following words.

(i) Positive:

(ii) Linear:

(iii) Strong:

The data collected from the wolves were used to create the least-squares equation  $\hat{y} = -16.46 + 35.02x$ .

- (b) Interpret the meaning of the slope of the least-squares regression line in context.
- (c) One wolf in the pack with a length of 1.4 meters had a residual of  $-9.67$  kilograms. What was the weight of the wolf?

## AP Statistics 2016 Free Response Question 1

### 2016 AP<sup>®</sup> STATISTICS FREE-RESPONSE QUESTIONS

#### STATISTICS SECTION II

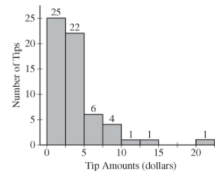
#### Part A

#### Questions 1-5

Spend about 65 minutes on this part of the exam.  
Percent of Section II score—75

**Directions:** Show all your work. Indicate clearly the methods you use, because you will be scored on the correctness of your methods as well as on the accuracy and completeness of your results and explanations.

1. Robin works as a server in a small restaurant, where she can earn a tip (extra money) from each customer she serves. The histogram below shows the distribution of her 60 tip amounts for one day of work.



- (a) Write a few sentences to describe the distribution of tip amounts for the day shown.  
 (b) One of the tip amounts was \$8. If the \$8 tip had been \$18, what effect would the increase have had on the following statistics? Justify your answers.

The mean:

The median:

## Reflection

**What can I do in my course to support students' future success in AP Statistics?**

## Contact Information

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