
## Primary Research Question

Compare the weight of adult cats and dogs at the shelter. How typical would it be to find a 13-pound cat? What about a 13-pound dog?

## Analysis

Let's break this question down into the different descriptive statistics that you will need to construct your answer. Be sure that your R output includes all of the following components.

1. Create a table to show how many adult cats and dogs are in the dataset. *An animal is considered an adult if it is at least one year of age*.
2. Make a histogram of weight for both adult dogs and cats.
3. Calculate the appropriate measures of center and spread for each distribution.
4. Find the z-score for a 13-pound cat.

5. Find the quartile for a 13-pound dog.

(2 points possible)

How many adult dogs are in the shelter?

Help

228

228

**Answer:** 226

How many adult cats are in the shelter?

54

54

**Answer:** 56

Hide Answer *You have used 1 of 1 submissions*

(2/2 points)

What is the shape of the distribution of weight for adult dogs?

positively skewed

What is the shape of the distribution of weight for adult cats?

approximately normal

Help

Show Answer *You have used 1 of 1 submissions*

(1/2 points)

Which measure of center should be used to describe the average weight of the adult cats?

mean **Answer:** Mean

Average adult cat weight in pounds (rounded to one decimal place)=

9.9

9.9

**Answer:** 8.6

Hide Answer *You have used 1 of 1 submissions*

(1 point possible)

What is the standard deviation for the weight of the adult cats? Round to two decimal places.

1.73

1.73

Help

**Answer:** 1.91

Hide Answer *You have used 1 of 1 submissions*

(1 point possible)

What is the z-score of a 13 pound adult cat? Round to one decimal point.

1.8

1.8

**Answer:** 2.3

Hide Answer *You have used 1 of 1 submissions*

(1/1 point)

Which of these best describes the location of a 13 pound adult cat in the shelter distribution?

- (•) More than 2 standard deviations above the mean. ✔
- ( ) Approximately 1 standard deviation below the mean.
- ( ) Approximately 2 standard deviations below the mean.
- ( ) Less than 1 standard deviation above the mean.

Help

Show Answer *You have used 1 of 1 submissions*

(1/1 point)

What proportion of adult cats weigh more than 13 pounds, according to your data? Use the following code to answer this question: 1-pnorm(zcat). Replace zcat with your z-score for the cat. Round to three decimal places.

0.011

0.011

Show Answer *You have used 1 of 1 submissions*

(1/2 points)

Looking now at the descriptive statistics for the weight of adult dogs in the shelter:

What quartile would contain a 13-pound adult dog?

second first

What percentage of adult dogs in the shelter weigh more than 13 pounds?

Approximately 75% Approximately 75%

Help

Hide Answer *You have used 1 of 1 submissions*



EdX offers interactive online classes and MOOCs from the world's best universities. Online courses from MITx, HarvardX, BerkeleyX, UTx and many other universities. Topics include biology, business, chemistry, computer science, economics, finance, electronics, engineering, food and nutrition, history, humanities, law, literature, math, medicine, music, philosophy, physics, science, statistics and more. EdX is a non-profit online initiative created by founding partners Harvard and MIT.

Help

About edX

About

News

Contact

FAQ

edX Blog

Donate to edX

Jobs at edX

Follow Us

Twitter

Facebook

Meetup

LinkedIn

Google+