

Warm up -> -> -> ->

1. Copy hw into your agenda
2. Grab the 2 practice worksheets from the side table
 - Staple them.
3. Grab calculator
4. Begin working
 - skip what you don't know!

Box-and-Whisker Plots

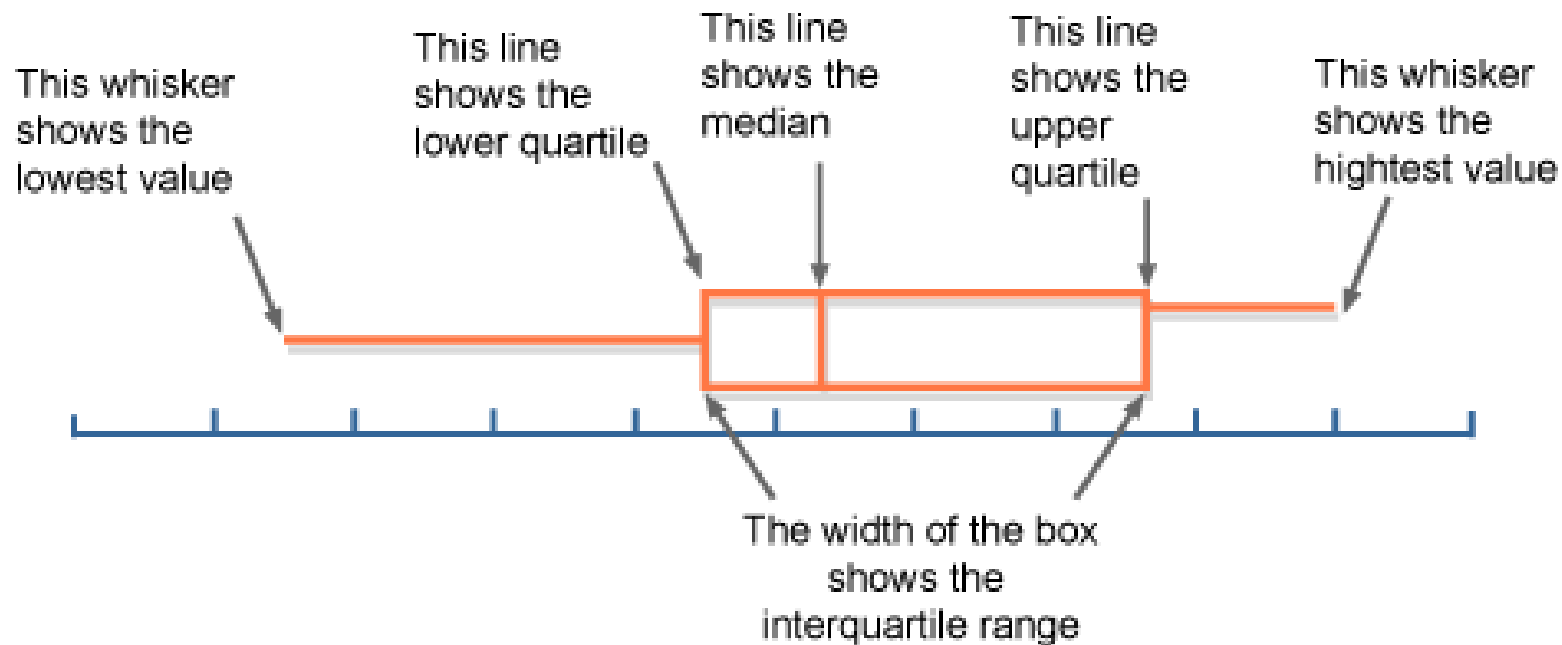
If you were absent Monday you need notes

Box Plots

video



Box-and-Whisker Plots





Box-and-Whisker Plots

Hey! Let's review!

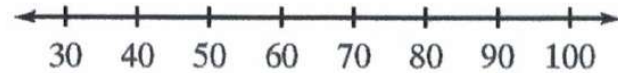
Box-and-Whisker Plots

Prac #5

All

Make a box-and-whisker plot for each set of data.

5. 16 20 30 15 23 11 15 21 30 29 13 16

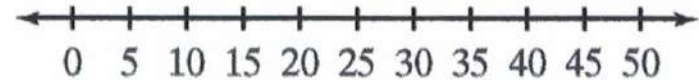


Box-and-Whisker Plots

Prac

Use box-and-whisker plots to compare data sets. Use a single number line for each comparison.

8. 1st set: 7 12 25 3 1 29 30 7 15 2 5
10 29 1 10 30 18 8 7 29
2nd set: 37 17 14 43 27 19 32 1 8 48
26 16 28 6 25 18

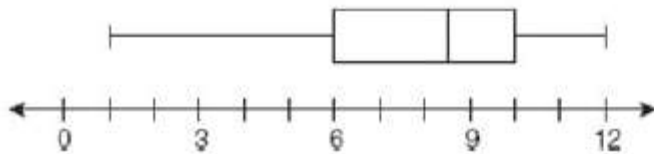


1st Set

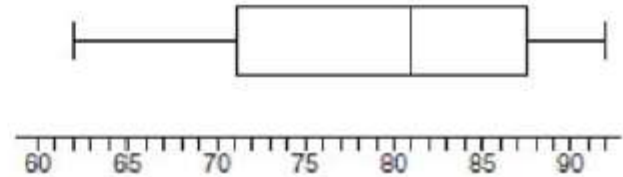
2nd Set

Box-and-Whisker Plots

- 1 What is the value of the third quartile shown on the box-and-whisker plot below?

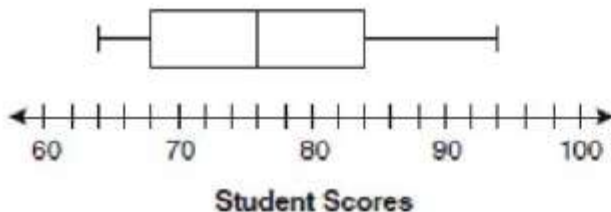


- 3 The accompanying diagram shows a box-and-whisker plot of student test scores on last year's Mathematics A midterm examination.



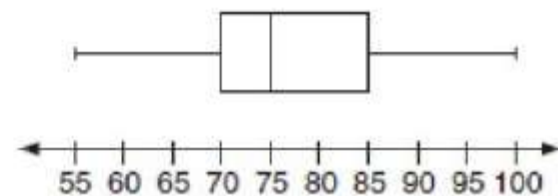
What is the median score?

- 2 The box-and-whisker plot below represents students' scores on a recent English test.



What is the value of the upper quartile?

- 4 The accompanying box-and-whisker plot represents the scores earned on a science test.



What is the median score?

How to analyze Box plots

1. Median
2. Percent breakdown
3. Predictability
4. Range
5. Skew



Median

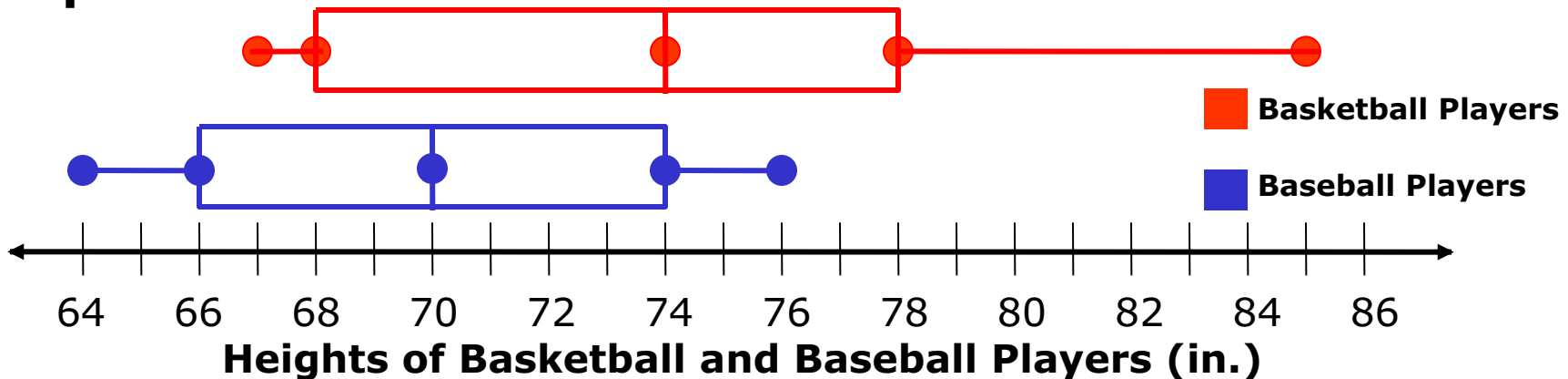
Median

- Which box plots has a higher median

Box-and-Whisker Plots

Comparing Box-and-Whisker Plot

Use the box-and-whisker plots below to answer each question.



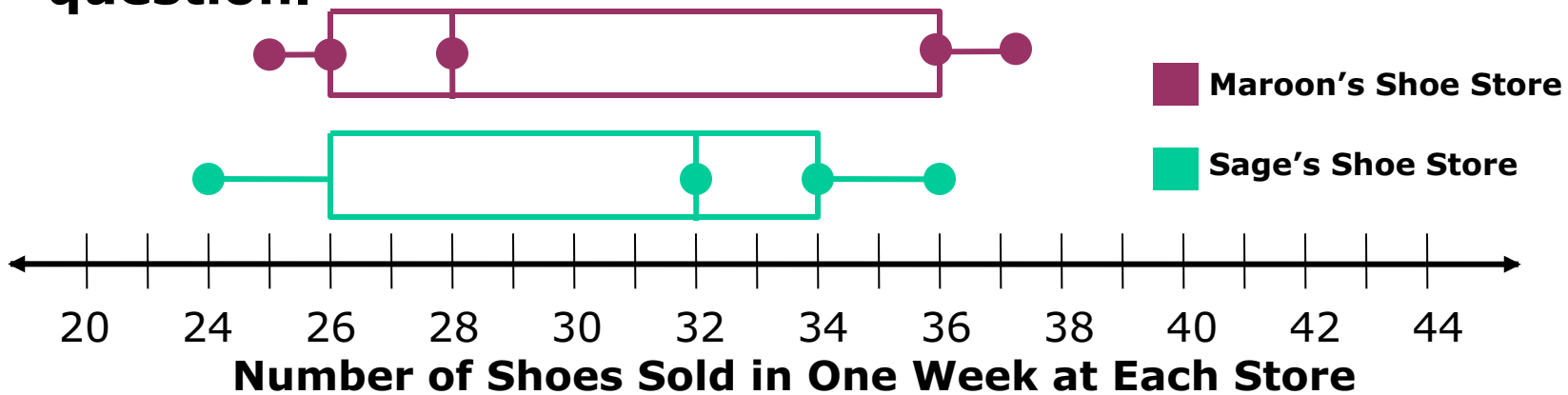
Which set of heights of players has a greater median?

The median height of basketball players, about 74 inches, is greater than the median height of baseball players, about 70 inches.

Box-and-Whisker Plots

Check It Out: Example 2A

Use the box-and-whisker plots below to answer each question.

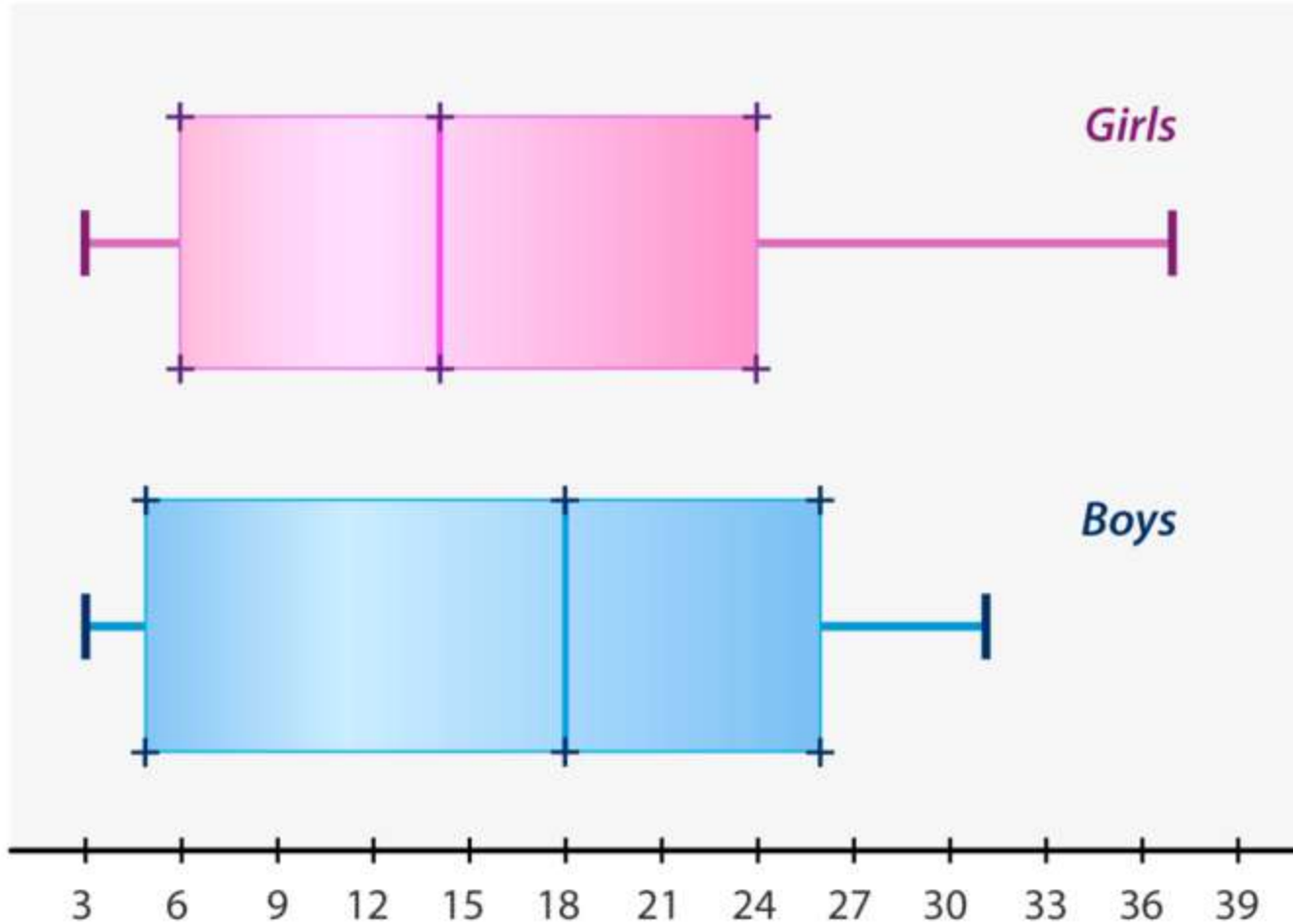


Which shoe store has a greater median?

The median number of shoes sold in one week at Sage's Shoe Store, about 32, is greater than the median number of shoes sold in one week at Maroon's Shoe Store, about 28.

Box-and-Whisker Plots

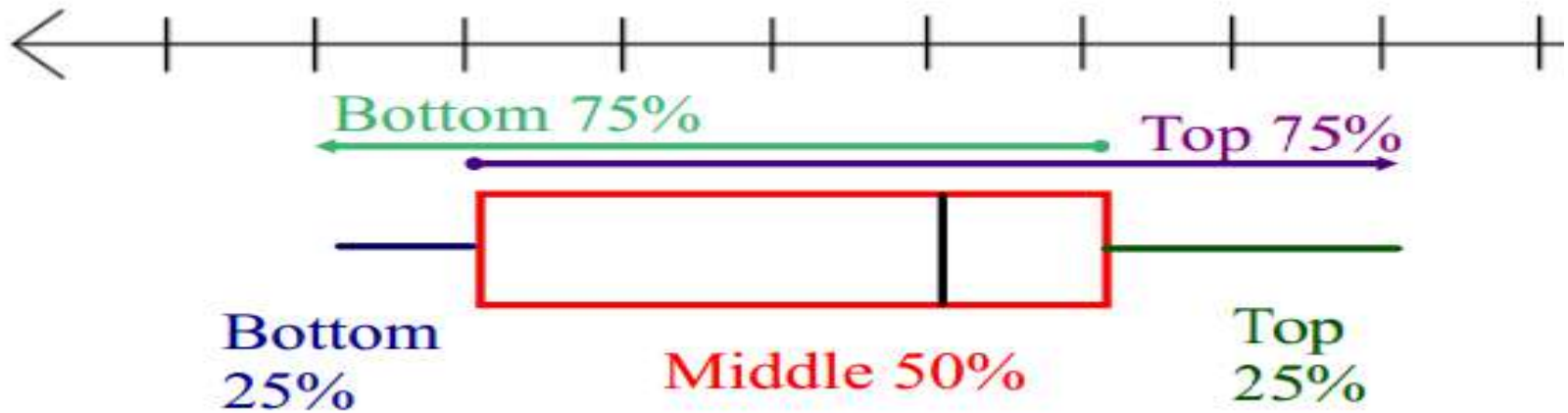
CDs Owned: Boys vs. Girls



Percent Breakdown

Box-and-Whisker Plots

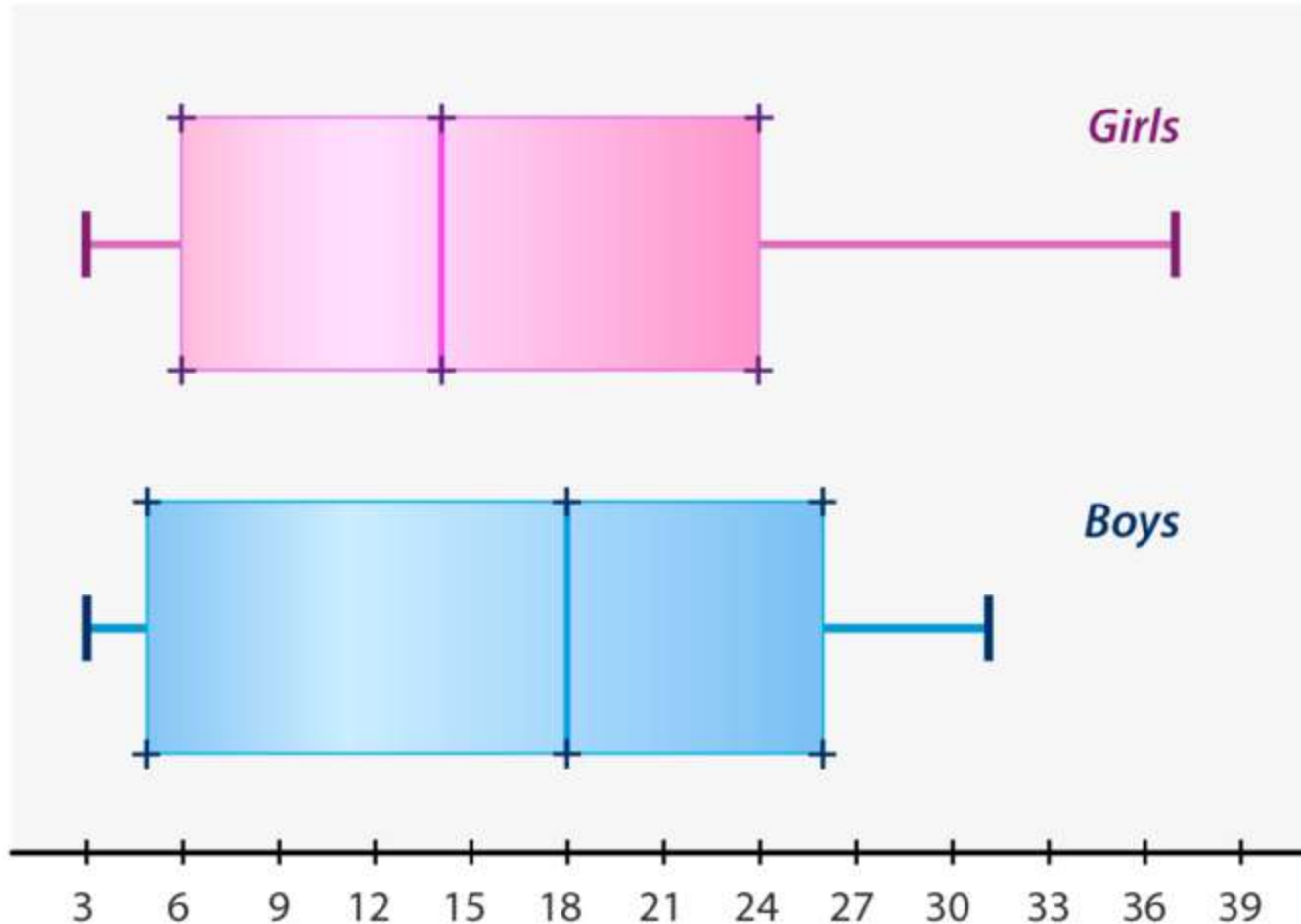
Percents



Video

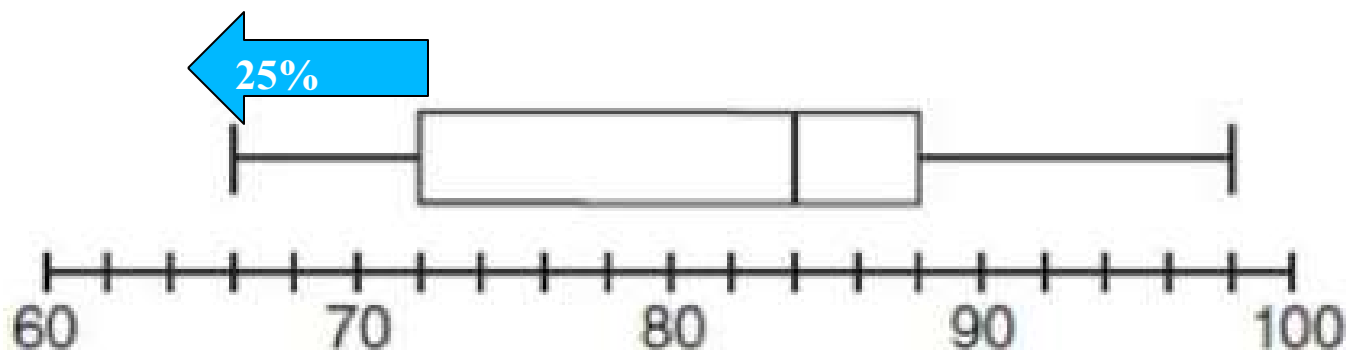
Where is the middle 50%?

CDs Owned: Boys vs. Girls



Box-and-Whisker Plots

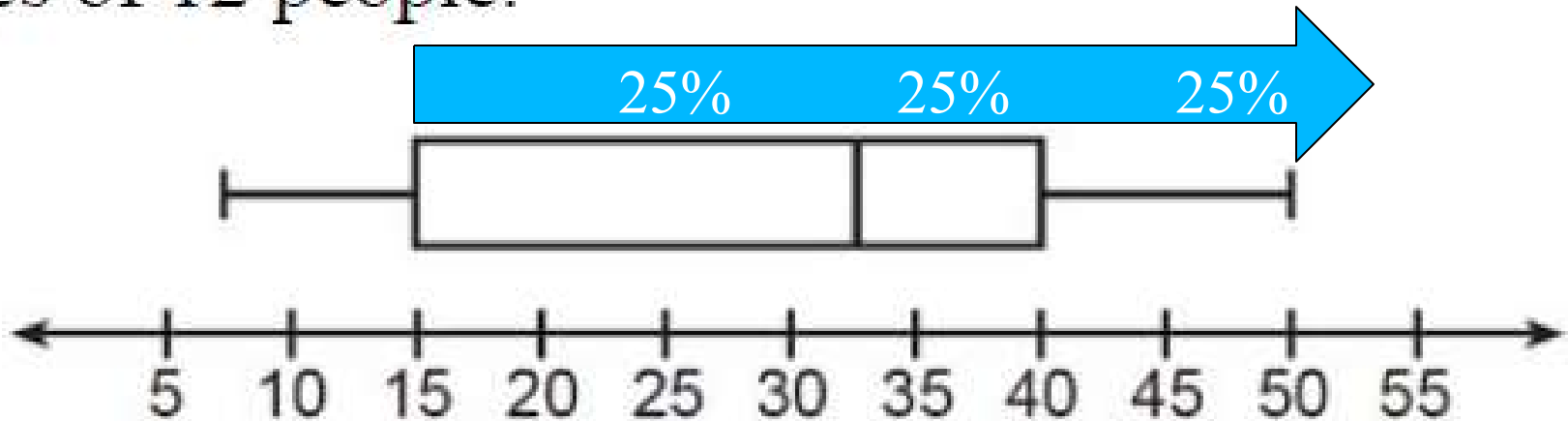
The box-and-whisker plot below represents the math test scores of 20 students.



What percentage of the test scores are *less than 72*?

Box-and-Whisker Plots

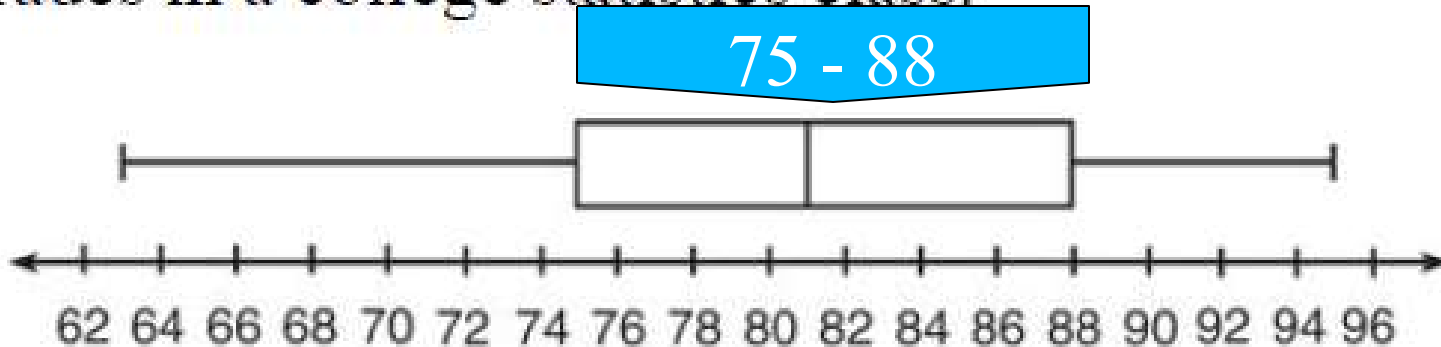
The box-and-whisker plot below represents the ages of 12 people.



What percentage of these people are age 15 or older?

Box-and-Whisker Plots

The box-and-whisker plot below represents a set of grades in a college statistics class.



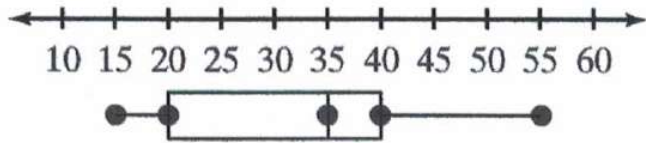
Which interval contains exactly 50% of the grades?

Box-and-Whisker Plots

Prac #5

Use the box-and-whisker plot to answer each question.

Weekly Mileage Totals, 24 Runners

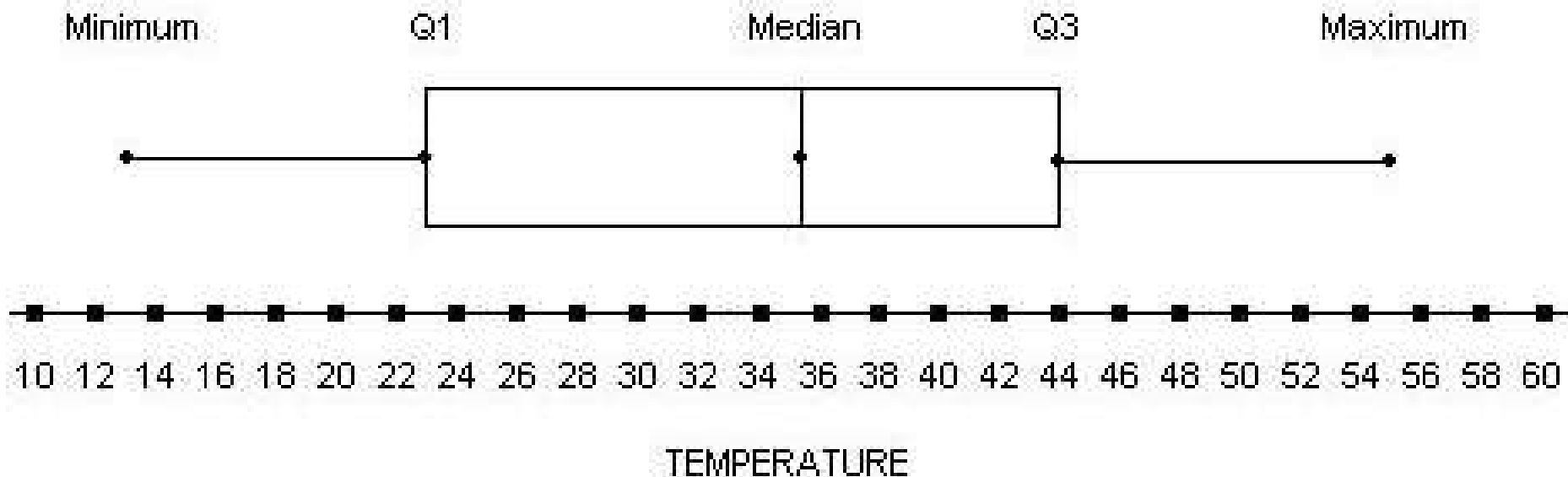


1. What is the highest weekly total? _____ the lowest? _____
2. What is the median weekly total? _____
3. What percent of runners run less than 40 miles a week? _____
4. How many runners run less than 20 miles a week? _____

Predictability

- Based on Interquartile Range
 - $IQR = Q3 - Q1$
- The **higher** the IQR the **less** predictable the data

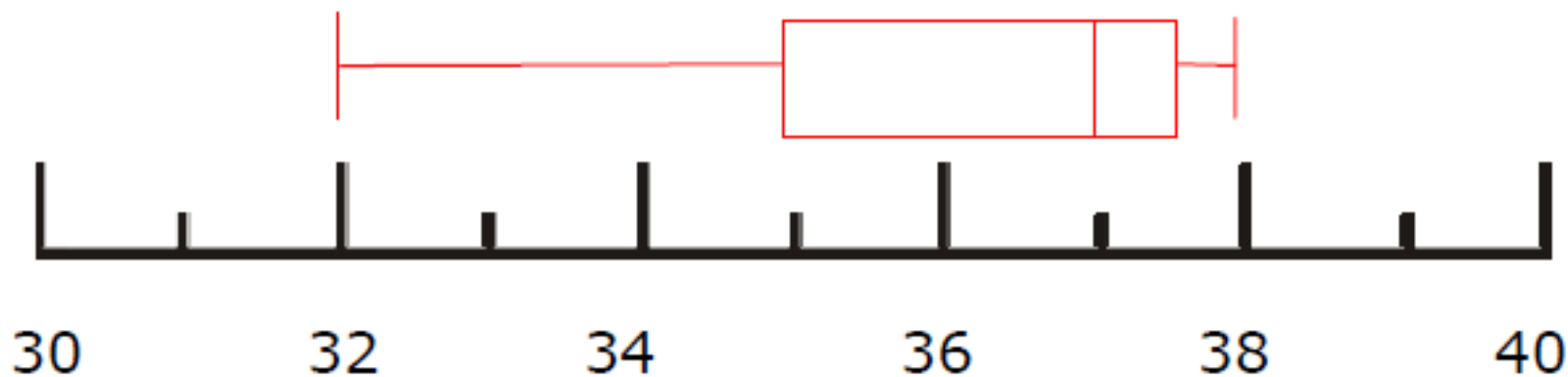
Practice: Find the IQR



$$\text{IQR}$$
$$44 - 24 = 20$$

3.

32,34,36,36,37,37,37,38,38



IQR

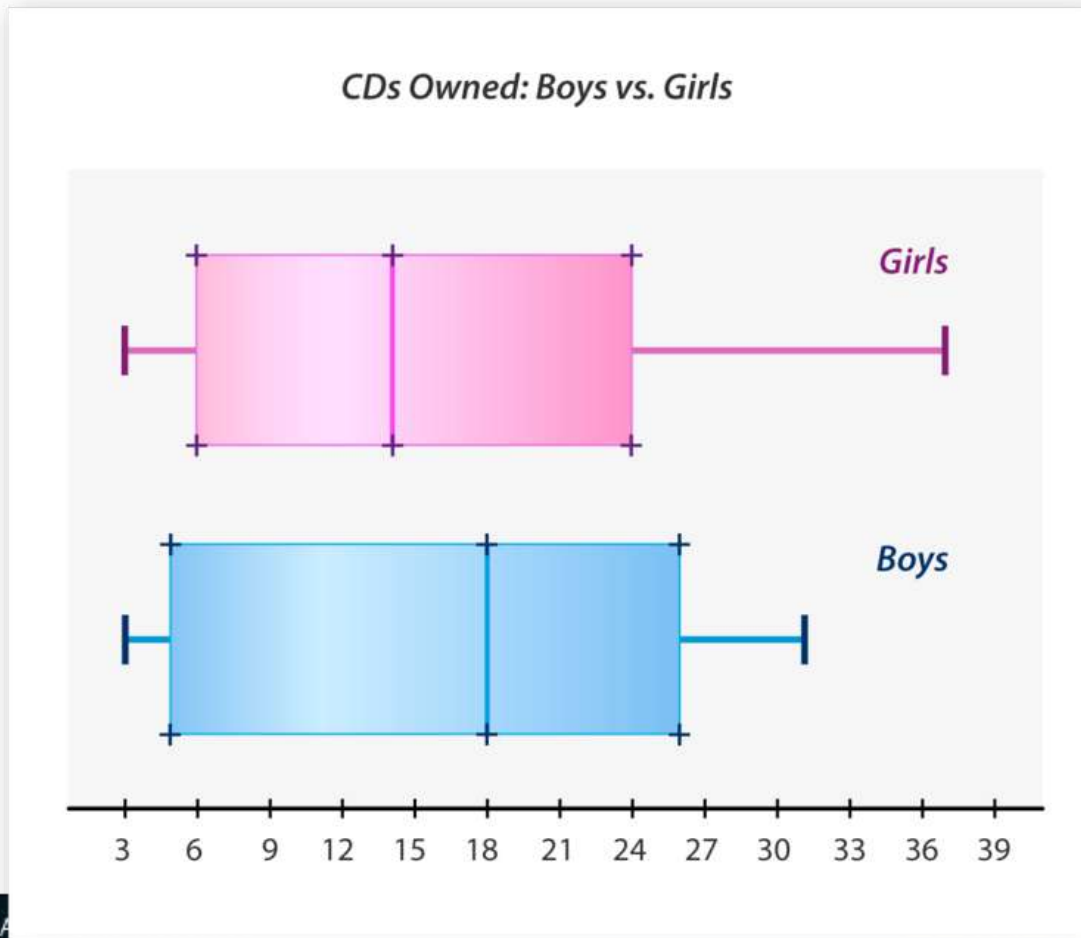
$$37.5 - 35 = 2.5$$

Predictability

- The **higher** the IQR the **less** predictable the data

Box-and-Whisker Plots

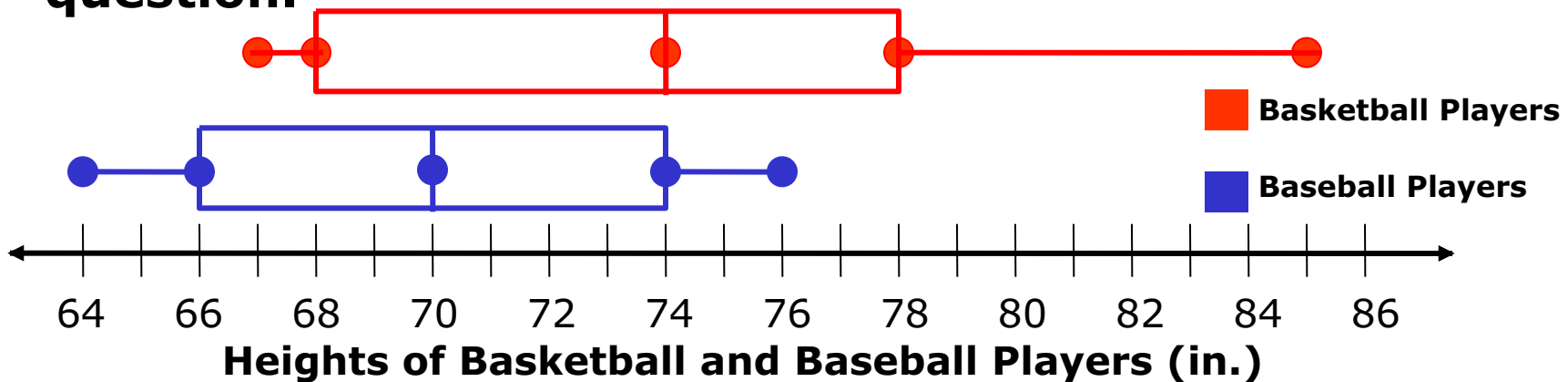
Which group is more predictable?



Box-and-Whisker Plots

Additional Example 2B: Comparing Box-and-Whisker Plot

Use the box-and-whisker plots below to answer each question.



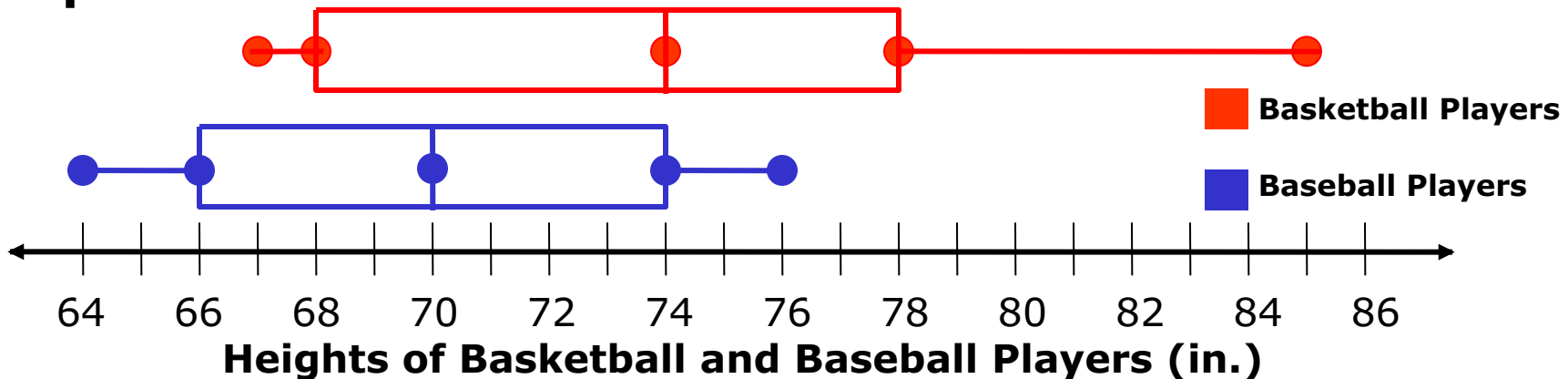
Which players have a greater interquartile range?

The basketball players have a longer box, so they have a greater interquartile range.

Box-and-Whisker Plots

Additional Example 2C: Comparing Box-and-Whisker Plot

Use the box-and-whisker plots below to answer each question.



Which group of players has more predictability in their height?

The range and interquartile range are smaller for the baseball players, so the heights for the baseball players are more predictable.

Range

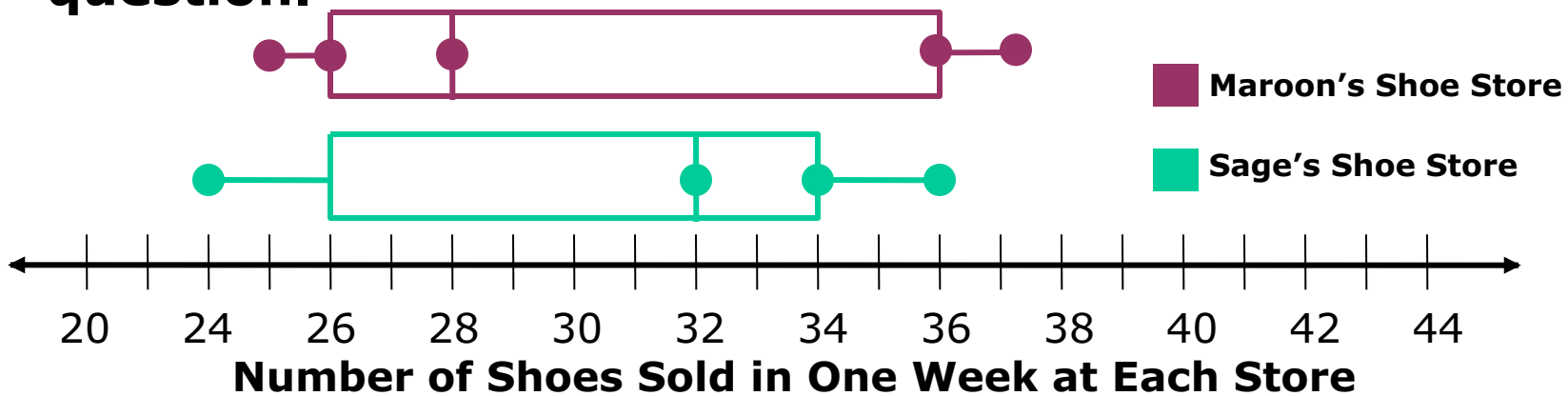
Highest – Lowest

Higher range = More variability
(more spread out)

Box-and-Whisker Plots

Check It Out: Example 2B

Use the box-and-whisker plots below to answer each question.



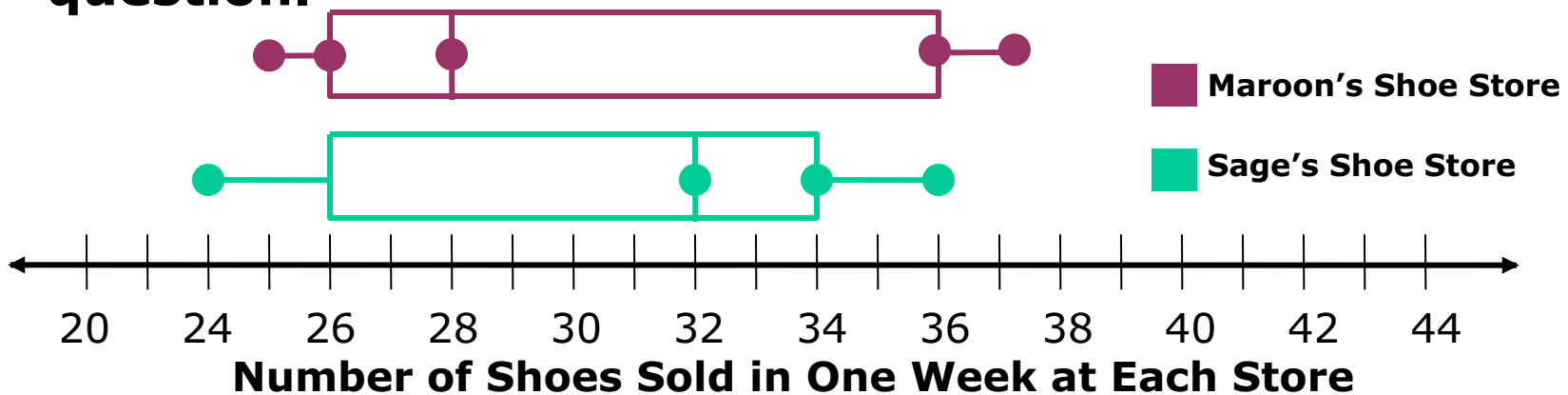
Which shoe store has a greater interquartile range?

Maroon's shoe store has a longer box, so it has a greater interquartile range.

Box-and-Whisker Plots

Check It Out: Example 2C

Use the box-and-whisker plots below to answer each question.

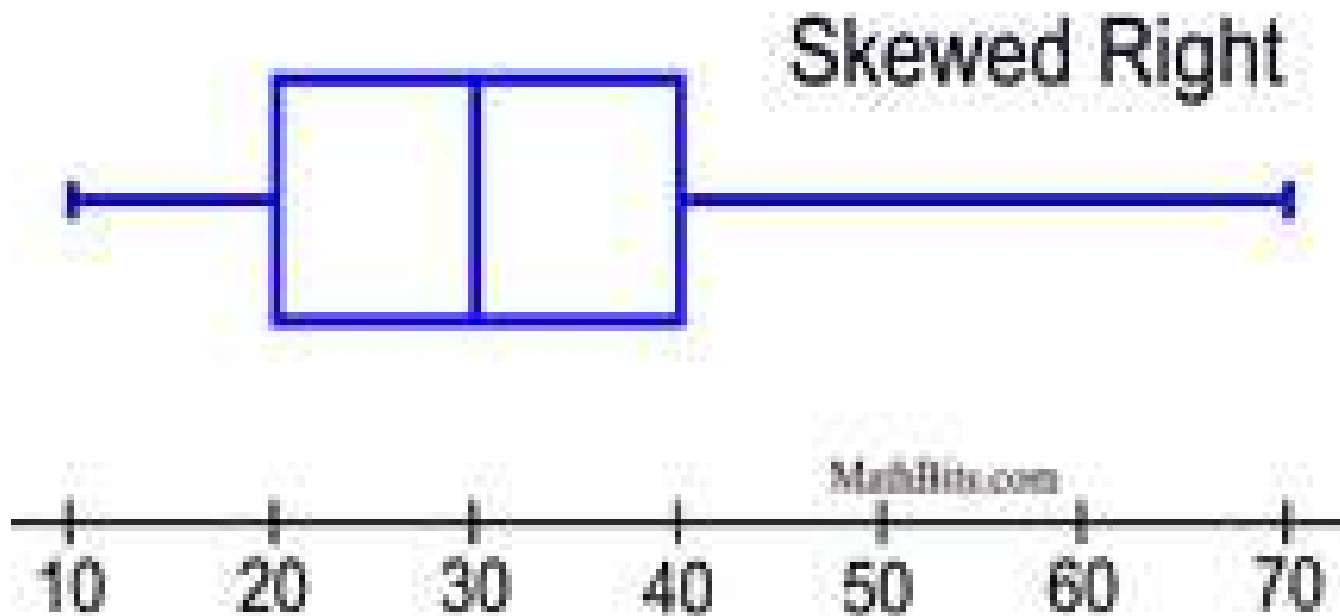


Which shoe store appears to be more predictable in the number of shoes sold per week?

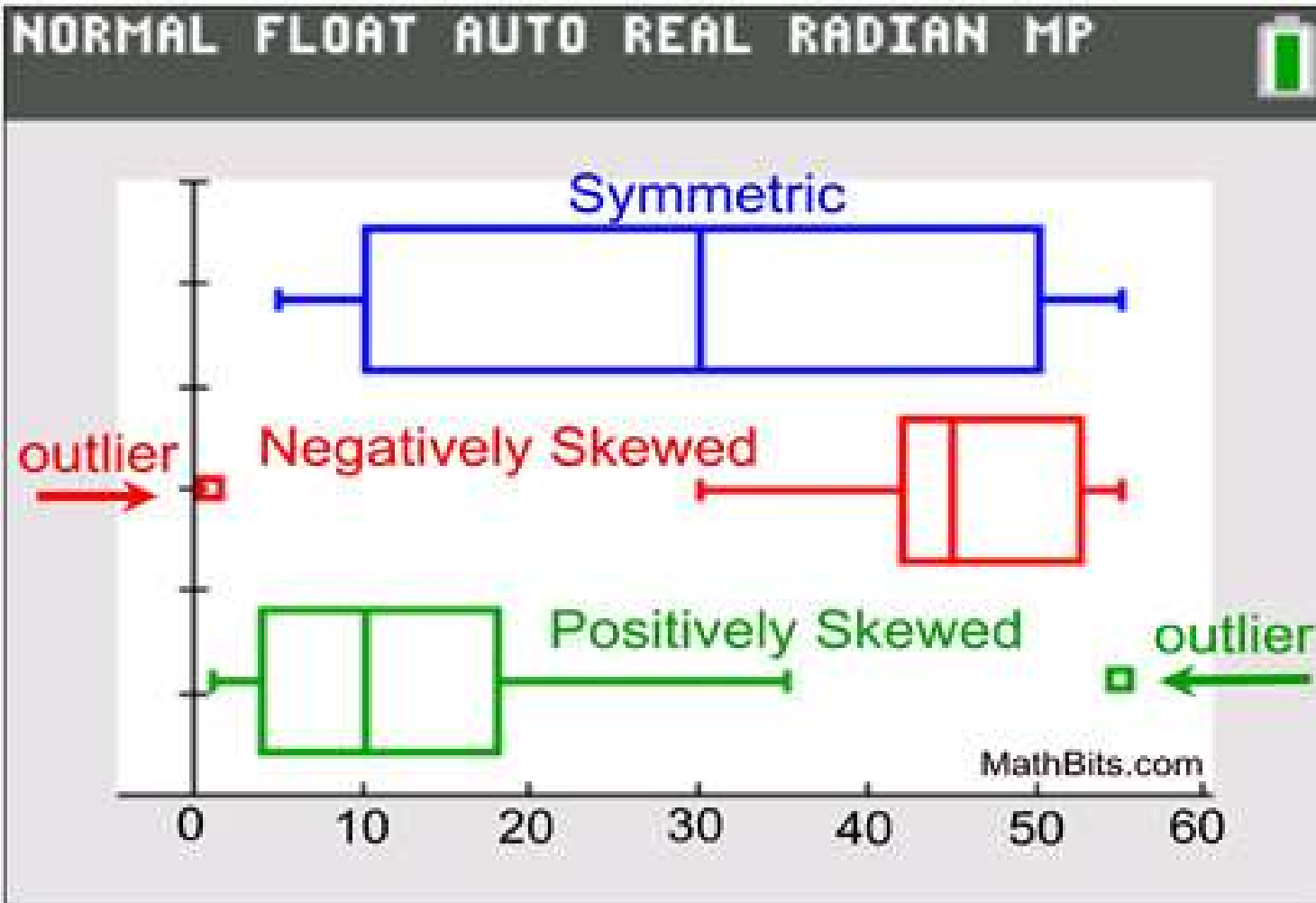
The range and interquartile range are smaller for Sage's Shoe Store, so the number of shoes sold per week is more predictable at Sage's Shoe Store.

Skew

Box-and-Whisker Plots



Box-and-Whisker Plots



Skew video

Box-and-Whisker Plots

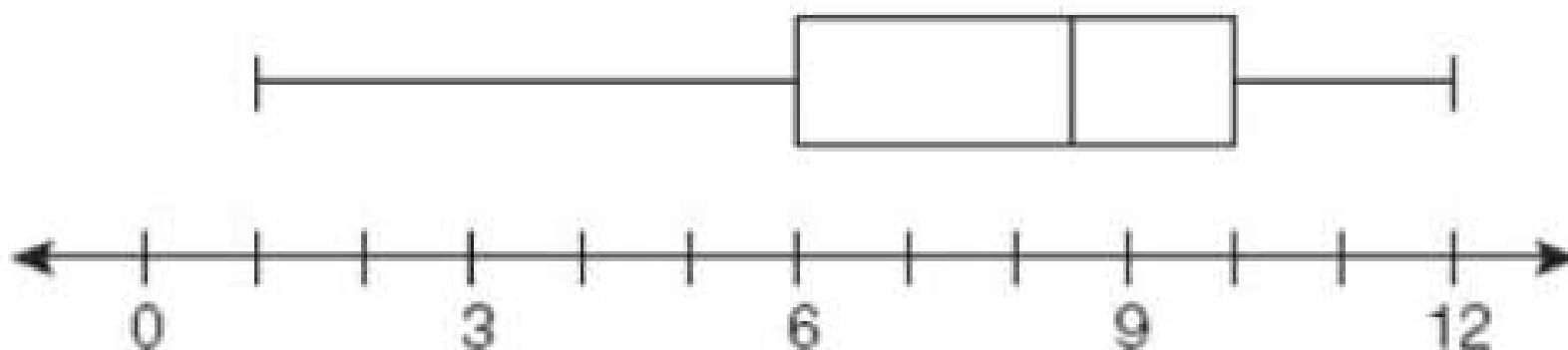
Rest of class

- Complete the packet

Other Analysis

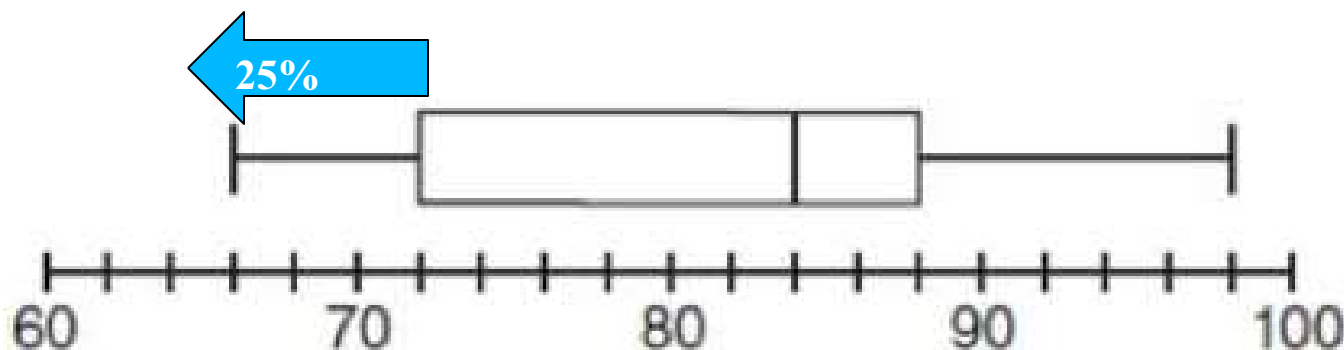
Box-and-Whisker Plots

What is the value of the third quartile shown on the box-and-whisker plot below?



Box-and-Whisker Plots

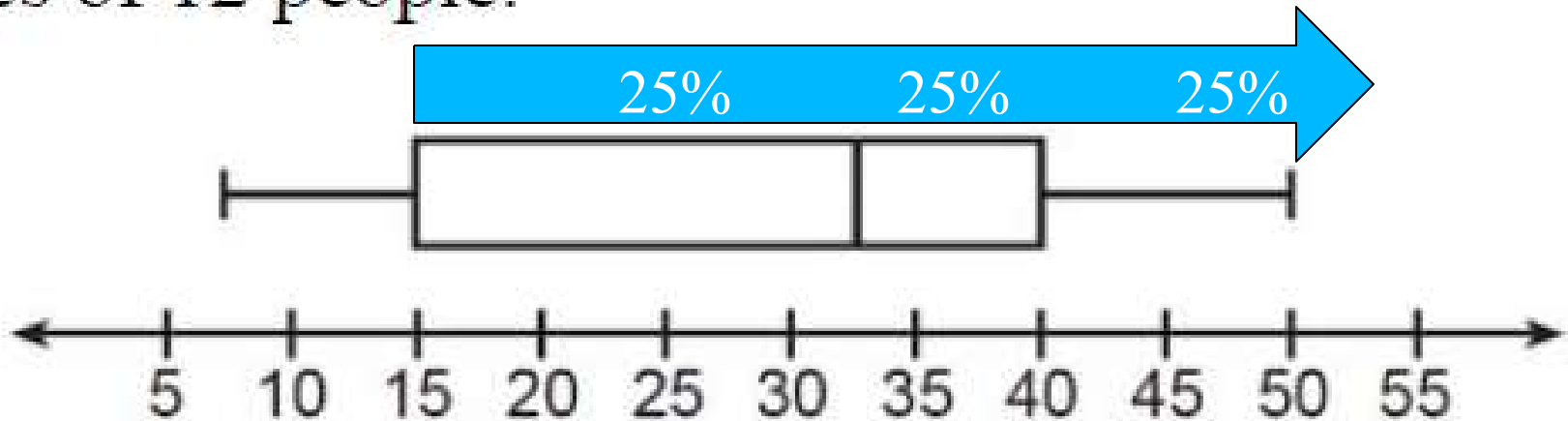
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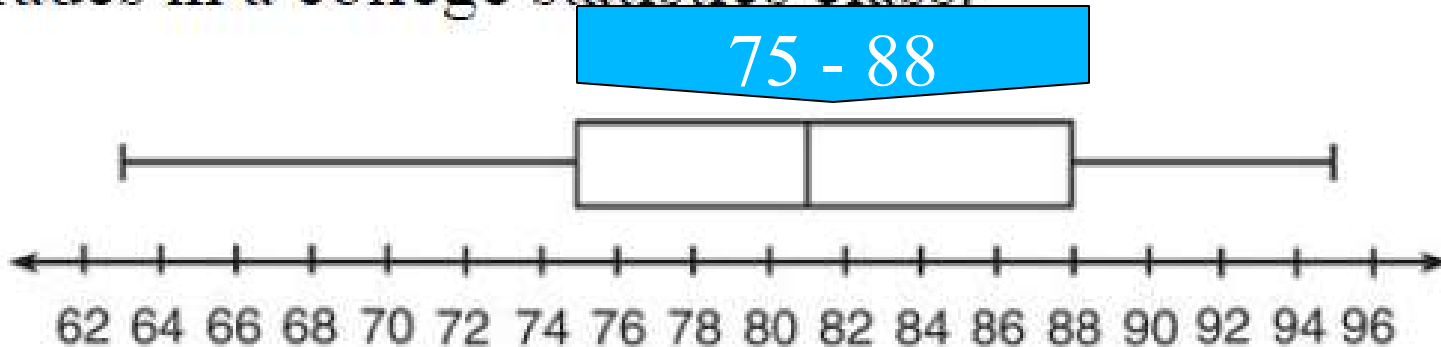
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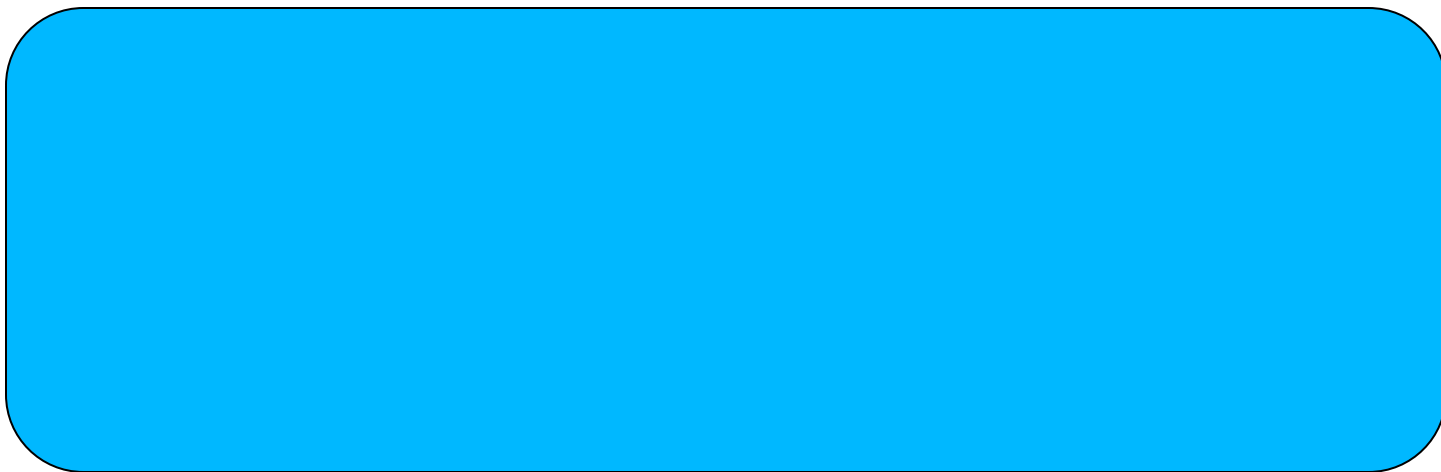
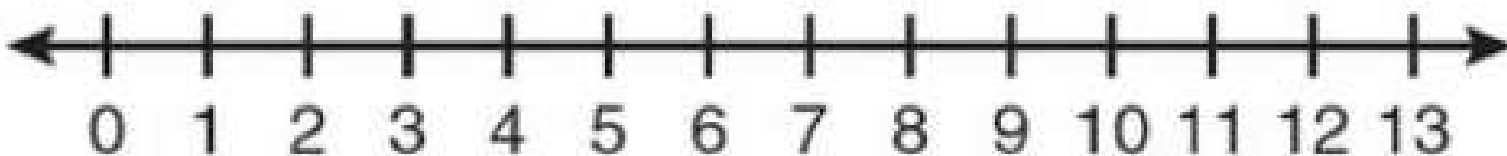
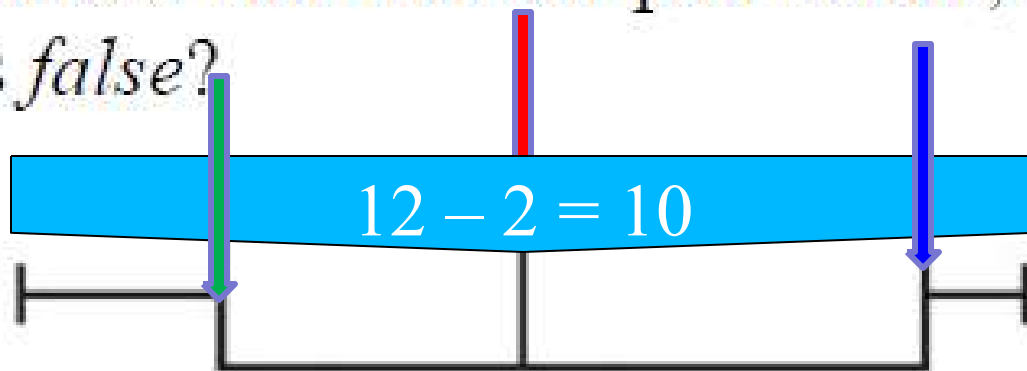
Box-and-Whisker Plots

The box-and-whisker plot below represents a set of grades in a college statistics class.



Which interval contains exactly 50% of the grades?

Based on the box-and-whisker plot below, which statement is *false*?



Homework

Get out **HW**