STATISTICS

A STATISTICAL INVESTIGATION

A.1 A STEP-BY-STEP GUIDE

A.1.1 IDENTIFYING THE STEPS

MCQ 1: The girls' average score in math is 87 (B+), while the boys' average is 75 (C). since 87 > 75, on average, girls perform better than boys in math. Which step does this sentence refer to?

- \Box Step 1: State the Problem
- \Box Step 2: Collect Data
- \Box Step 3: Calculate Descriptive Statistics
- \Box Step 4: Organize and Display Data
- \Box Step 5: Interpret the Statistics

MCQ 2: "Do students prefer science over math?" Which step does this sentence refer to?

- \Box Step 1: State the Problem
- \Box Step 2: Collect Data
- \Box Step 3: Calculate Descriptive Statistics
- $\Box\,$ Step 4: Organize and Display Data
- \Box Step 5: Interpret the Statistics

MCQ 3: "We asked every student in the school to fill out a survey about their favorite subjects." Which step does this sentence refer to?

- \Box Step 1: State the Problem
- \Box Step 2: Collect Data
- \Box Step 3: Calculate Descriptive Statistics
- □ Step 4: Organize and Display Data
- \Box Step 5: Interpret the Statistics

MCQ 4: "We made a pie chart showing how many students chose each subject."



Which step does this sentence refer to?

- $\Box\,$ Step 1: State the Problem
- \Box Step 2: Collect Data

- \Box Step 3: Calculate Descriptive Statistics
- □ Step 4: Organize and Display Data
- \Box Step 5: Interpret the Statistics

MCQ 5: "The relative frequency of students choosing 'Math' as their favorite subject is 50%." Which step does this sentence refer to?

- \Box Step 1: State the Problem
- \Box Step 2: Collect Data
- \Box Step 3: Calculate Descriptive Statistics
- \Box Step 4: Organize and Display Data
- \Box Step 5: Interpret the Statistics

B STATING THE PROBLEM

B.1 POPULATION

B.1.1 FINDING POPULATION

MCQ 6: Imagine you're a statistician studying how much time people spend outdoors. Here's your statistical question:"How many hours do kids spend playing outside each day?" Which group is the best population to study for this question? Check the correct answer:

- \Box "All the adults in a city."
- $\hfill\square$ "All the kids in a school."
- $\hfill\square$ "Every dog in a neighborhood."
- $\hfill\square$ "All the teachers in a country."

MCQ 7: Imagine you're a statistician studying pets in homes. Here's your statistical question: "How many families own a pet in our town?"

Which group is the best population to study for this question? Check the correct answer:

- \Box "All the kids in a playground."
- \Box "Every bird in a forest."
- $\hfill\square$ "All the workers in a factory."
- $\hfill\square$ "All the families in our town."

MCQ 8: Imagine you're a statistician studying reading habits. Here's your statistical question: "How many books do students borrow from the school library each month?" Which group is the best population to study for this question? Check the correct answer:

- $\hfill\square$ "All the librarians in a state."
- $\hfill\square$ "All the students in a school."
- \Box "Every book in a bookstore."
- $\hfill\square$ "All the parents in a neighborhood."

MCQ 9: Imagine you're a statistician studying nature. Here's your statistical question: "How tall are the oak trees in a national park?"

Which group is the best population to study for this question? Check the correct answer:

 $\hfill\square$ "All the oak trees in a national park."

 $\hfill\square$ "All the rivers in a country."

 \Box "Every cloud in the sky."

 $\hfill\square$ "All the rocks on a mountain."

B.2 DATA

B.2.1 SORTING DATA TYPES

MCQ 10: What type of data is this variable: favorite subject (e.g., Maths, Science, English)?

 \Box Quantitative variable

 $\hfill\square$ Qualitative variable

MCQ 11: What type of data is this variable: number of siblings?

 \Box Quantitative variable

 $\hfill\square$ Qualitative variable

MCQ 12: What type of data is this variable: type of vehicle (e.g., car, bicycle, bus)?

 \Box Quantitative variable

 $\Box\,$ Qualitative variable

MCQ 13: What type of data is this variable: height of students (in cm)?

 \Box Quantitative variable

 $\hfill\square$ Qualitative variable

MCQ 14: What type of data is this variable: level of education (e.g., high school, bachelor's, master's)?

 \Box Quantitative variable

 $\Box\,$ Qualitative variable

MCQ 15: What type of data is this variable: annual income (in dollars)?

 \Box Quantitative variable

 \Box Qualitative variable

C COLLECTING DATA

C.1 SAMPLING

C.1.1 CHOOSING CENSUS OR SURVEY

MCQ 16: You want to find the proportion of girls in a class. Do you use:

□ Survey

 $\Box~{\rm Census}$

MCQ 17: You want to know how students feel about the new cafeteria menu. Do you use:

 \Box Survey

 \Box Census

MCQ 18: You need to elect the Grade 7 class representative. Do you use:

 \Box Survey

 \Box Census

MCQ 19: You want to find out if students across the country have faced physical violence this year. Do you use:

- \Box Survey
- \Box Census

C.2 STATISTICAL ERROR IN SAMPLING

C.2.1 SPOTTING STATISTICAL SLIP-UPS

MCQ 20: A teacher wants to gauge how students feel about his lessons. He surveys the 5 students in the front row and concludes that all his students enjoy his teaching.

Which statements are true? Check all that apply:

- $\hfill\square$ The teacher's conclusion is reliable and accurate.
- $\hfill\square$ The teacher's conclusion is flawed due to a small sample size.
- $\hfill\square$ The teacher's conclusion is flawed due to selection bias.

MCQ 21: A marketing manager wants to test if a new product will appeal to the public. He surveys employees who developed the product and concludes it will succeed with all consumers. Which statements are true? Check all that apply:

- $\hfill\square$ The manager's conclusion is reliable and accurate.
- $\hfill\square$ The manager's conclusion is flawed due to a small sample size.
- $\hfill\square$ The manager's conclusion is flawed due to selection bias.

MCQ 22: A city planner wants to gauge opinions on a new park. She surveys a large, diverse, random group of residents from various neighborhoods and ages, concluding most support the park.

Which statements are true? Check all that apply:



- \Box The planner's conclusion is likely reliable and accurate.
- $\hfill\square$ The planner's conclusion is flawed due to a small sample size.
- $\hfill\square$ The planner's conclusion is flawed due to selection bias.

MCQ 23: A nutritionist tests a new diet's effectiveness by selecting clients from her clinic. After a month, they report significant weight loss, and she concludes the diet works for everyone.

Which statements are true? Check all that apply:

- $\hfill\square$ The nutritionist's conclusion is reliable and accurate.
- $\hfill\square$ The nutritionist's conclusion is flawed due to a small sample size.
- $\hfill\square$ The nutritionist's conclusion is flawed due to selection bias.

MCQ 24: During World War II, Allied engineers studied returning aircraft to decide where to add armor. They noted frequent damage to wings and fuselage, but little to engines and cockpits, concluding wings and fuselage needed more armor. Which statement is true? Check the correct one:

- $\hfill\square$ The engineers' conclusion is correct; wings and fuse lage need more armor.
- \Box The engineers' conclusion is flawed due to selection bias; engines and cockpits need more armor.
- $\hfill\square$ The engineers lack enough data to conclude anything.

MCQ 25: In a small town, a neighborhood shows a cluster of cancer cases, and residents blame a nearby factory. Yet, the town's overall cancer rate matches the national average. Which statement is true? Check the correct one:

- $\hfill\square$ The factory definitely caused the cancer cluster.
- $\hfill\square$ The cluster might be random, and more investigation is needed.
- $\hfill\square$ The town's average cancer rate proves the factory isn't to blame.

MCQ 26: In a factory experiment to boost productivity, researchers increased the lighting and noticed workers produced more. Later, they dimmed the lights back to normal, but productivity stayed high.

Which statement best explains this? Check the correct one:

- $\hfill\square$ Brighter lighting directly caused the productivity boost.
- $\hfill\square$ Workers performed better because they knew they were being studied.
- $\hfill\square$ Productivity improved when the original lighting returned.

D DESCRIPTIVE STATISTICS

D.1 A STATISTIC

D.1.1 SPOTTING STATISTICS

MCQ 27: "Su averages 14.6 points per game." Is this an example of statistics?

 \Box Yes

🗆 No

MCQ 28: "John's height is 180 cm." Is this an example of statistics?

 \Box Yes

 \square No

MCQ 29: "The average temperature in July is 25°C." Is this an example of statistics?

 \Box Yes

 \square No

MCQ 30: "Emily's favorite color is blue." Is this an example of statistics?

 \Box Yes

 \Box No

 \mathbf{MCQ} 31: "On average, students in the class scored 85% on the exam."

Is this an example of statistics?

 \Box Yes

 \square No

MCQ 32: "The median income in the city is \$50,000." Is this an example of statistics?

 \Box Yes

D.2 RELATIVE FREQUENCY

D.2.1 CALCULATING RELATIVE FREQUENCIES WITH 2 CATEGORIES

Ex 33: A class of 25 students was surveyed about their gender. Compute the percentages (rounded to one decimal place):

Gender	Frequency	Relativ	e Frequ	ency (%)
Girls	13			%
Boys	12			%
Total	25		100%	

Ex 34: If A class of 25 students took a quiz, and their results were recorded. Compute the percentages (rounded to one decimal place):

Result	Frequency	Relative Frequency (%)	
Pass	15		%
Fail	10		%
Total	25		100%

 $[\]square$ No

A basketball player attempted 50 shots during Ex 35: practice. Compute the shooting percentages (rounded to one decimal place):

Outcome	Frequency	Relativ	ve Frequ	ency $(\%)$
Success	32			%
Miss	18			%
Total	50		100%	

A company tested 70 new light bulbs to see if they Ex 36: would last over 1,000 hours. Compute the success percentages (rounded to one decimal place):

Outcome	Frequency	Relative Frequency (%)		ency (%)
Success	49			%
Miss	21			%
Total	70		100%	

D.2.2 CALCULATING RELATIVE FREQUENCIES

 $\stackrel{\blacksquare}{\blacksquare}$ In a middle school, students were asked what their Ex 37: favorite animal was. Fill in the relative frequencies (round to 1 decimal place):

Pet	Frequency	Relative Frequency (%)
Cats	18	%
Dogs	14	%
Hamsters	5	%
Fish	3	%
Total	40	100%



A group of 50 students chose their favorite fruit. Ex 38: Fill in the relative frequencies (round to 1 decimal place):

Fruit	Frequency	Relative Frequency (%)
Apples	20	%	
Bananas	15	%	
Cherries	10	%	
Grapes	5	%	
Total	50	100%	

In a middle school, students were asked what Ex 39: their favorite means of transportation was. Fill in the relative What's the mode? frequencies (round to 1 decimal place):

Mode of Transportation	Frequency	Relati	ive Frequency (%)
Bus	35		%
Bicycle	25		%
Walking	15		%
Car	5		%
Total	80		100%

In a middle school, students were asked what their Ex 40: favorite music genre was. Fill in the relative frequencies (round to 1 decimal place):

Type of Music	Frequency	Relative Frequency $(\%)$
Pop	40	%
Rock	30	%
Classical	20	%
Jazz	10	%
Total	100	100%

D.3 CENTRAL TENDENCY

D.3.1 FINDING THE MODE

Ex 41: Look at this frequency table showing marks:

Marks	Frequency
А	10
В	22
С	19
D	15
Е	6

What's the mode?

$\Box \mathbf{A}$	
\Box B	
$\Box \subset$	mark
\Box D	
\Box E	

Ex 42: Check this frequency table for modes of transport:

Mode of Transport	Frequency
Bus	18
Bicycle	12
Car	8
Walking	14
Train	6

What's the mode?

Ex 43: Look at this frequency table showing favorite fruits:

Fruit	Frequency
Apple	14
Banana	20
Orange	12
Grapes	10
Mango	16

 \Box Apple \Box Banana \Box Orange fruit \Box Grapes □ Mango

Ex 44: 30 students were asked how many siblings they have, and the results are shown in this pie chart:











2. Which number of siblings is the most common?

- 0 Siblings
 1 Sibling
 2 Siblings
 3 Siblings
 4 Siblings
- 3. What percentage of the students have 2 siblings?



4. What percentage of the students have at least 1 sibling?



Transport **Ex 68:** 30 randomly selected students were asked to name their favorite sport. The results of the survey are displayed in the graph.



1. What sort of graph is being used?

 \Box Bar chart \Box Pie chart

- 2. Which was the most favoured sport?
 - SoccerBasketballTennisSwimming
- 3. What percentage of the students named Basketball as their favorite sport?

4. What percentage of the students chose either Soccer or Basketball as their favorite sport?





E.2 VISUALIZING CENTRAL TENDENCY AND DISPERSION

E.2.1 PLOTTING BOX PLOTS

MCQ 69: The data below represents the number of points scored in each basketball game:

1, 19, 10, 2, 18, 11, 5, 15, 10

Select the correct box plot based on this data.



MCQ 70: ^{III} The data below represents the number of minutes spent on various activities in a day:

20, 30, 70, 45, 62, 55, 33, 27, 40, 50, 0, 100, 30

Select the correct box plot based on this data.



MCQ 71: The data below represents the average monthly temperatures (in degrees Celsius) recorded over a year in a particular city:

-5, 2, 5, 10, 15, 20, 25, 30, 20, 15, 10, 0

Select the correct box plot based on this data.



MCQ 72: The data below represents the average monthly air quality index (AQI) recorded over a year in a particular city:

35, 42, 50, 55, 60, 65, 70, 75, 65, 60, 55

(*<u>*</u>)

Select the correct box plot based on this data.

E.2.2 UNDERSTANDING BOX PLOTS

Ex 73: Here's a box plot showing how many minutes passengers spent waiting in an airport departure lounge.



What's the shortest time a passenger spent waiting in the lounge?



Ex 74: This box plot shows the waiting times (in minutes) for passengers in an airport departure lounge.



minutes

Ex 75: Here's a box plot of the waiting times (in minutes) for passengers in an airport departure lounge.



What's the interquartile range (IQR) of these waiting times?



Ex 76: This box plot shows how many hours students spent on an online learning platform in one week.



What's the interquartile range (IQR) of the hours spent on the platform?

hours

F INTERPRETING THE STATISTICS

F.1 READING AND COMPARING DATA

F.1.1 INTERPRETING RELATIVE FREQUENCY

MCQ 77: Here's a table showing the relative frequency of students' favorite subject:

Subject	Relative Frequency (%)
Maths	46%
Science	44%
English	10%

Check the statements that are true:

- \Box Maths is the most popular subject among students.
- $\Box\,$ English is the least popular subject among students.
- $\hfill\square$ Maths and Science are almost equally popular among students.
- \Box Students get good grades in Maths.
- $\Box\,$ English is the most popular subject among students.

time (\dot{MCQ} 78: This table shows the relative frequency of beverage children drink:

Beverage	Relative Frequency $(\%)$
Water	55%
Juice	30%
Soda	10%
Milk	5%

Check the statements that are true:

- \Box Water is the most popular beverage among children.
- \Box Milk is the least popular beverage among children.
- \Box Soda is more popular than Juice.

time (min) Milk is the most popular beverage.

 \Box Water makes up more than half of all drinks.

 $\hfill\square$ Juice and Soda together are less popular than Water alone.

MCQ 79: This table shows how students get to school, based on relative frequency:

Transportation	Relative Frequency (Bus
40%	Walking
30%	Bicycle
20%	Car
10%	

Check the statements that are true:

- \Box The Bus is the most popular way to get to school.
- \Box The Car is the least popular way to get to school.
- $\hfill\square$ Walking and Bicycle are equally popular.
- $\hfill\square$ More students walk than take the Bus.
- \Box Bicycle and Car together are less popular than the Bus alone.



□ Walking is the most popular way to get to school.

MCQ 80: Here's a table showing the relative frequency of student's favorite pet:

Pet Type	Relative Frequency (Dogs
50%	Cats
30%	Fish
15%	Birds
5%	

Check the statements that are true:

- \Box Dogs are the most popular pets among students.
- $\Box\,$ Birds are the least popular pets among students.
- $\hfill\square$ More students own Cats than Fish.
- \Box Dogs and Cats together make up more than 75% of all pets.
- \Box Birds are more popular than Fish.
- \Box Dogs cost more than Cats.

F.1.2 INTERPRETING RELATIVE FREQUENCY

Ex 81: Here's a pie chart showing what kids drink most often:



Answer these questions based on the pie chart:

- 1. Which drink do kids choose the most?
 - $\Box \text{ Water}$ $\Box \text{ Juice}$ $\Box \text{ Soda}$ $\Box \text{ Milk}$

2. Which drink do kids choose the least?

- WaterJuiceSodaMilk
- 3. Do more kids drink soda than juice?
 - \Box Yes \Box No

Ex 82: This bar graph shows how students spend their free time:



Answer these questions based on the bar graph:

1. What's the most popular activity?

Phone
Sports
Games
TV

- 2. What's the least popular activity?
 - $\Box Phone \\ \Box Sports \\ \Box Games \\ \Box TV$
- 3. Do more students play games than use their phones?
 - \Box Yes \Box No

Ex 83: This pie chart shows how much time students spend studying different subjects:



Answer these questions based on the pie chart:

1. Which subject gets the most study time?

Maths
Science
English
History

- 2. Which subject gets the least study time?
 - MathsScienceEnglishHistory

(*<u>+</u>)

3. Do students spend more time on English than Science?

\Box Yes \Box No

Ex 84: This bar graph shows how many siblings students have:



Answer these questions based on the bar graph:

1. What's the most common number of siblings?



- 2. What's the least common number of siblings?
 - $\Box 0$ $\Box 1$ $\Box 2$ $\Box 3+$
- 3. Do more students have 1 sibling than none?
 - \Box Yes \Box No

F.1.3 COMPARING USING PIE CHARTS

MCQ 85: Here are pie charts showing the favorite social media apps for girls and boys:

Instagram 50% Facebook 5% TikTok 30% Girls: Instagram 40% TikTok 35% Facebook 10% Snapchat 15%

Boys:

Check the true statements about these favorite apps:

- $\hfill\square$ "Instagram is the top app for both girls and boys."
- $\hfill\square$ "Boys like Facebook more than girls do."
- \Box "Girls like TikTok more than boys do."
- $\hfill\square$ "Snapchat is just as popular with girls as with boys."

MCQ 86: Here are pie charts showing the favorite pets for girls and boys:



Check the true statements about these favorite pets:

- $\hfill\square$ "Dogs are the favorite pet for both girls and boys."
- $\hfill\square$ "Girls like cats more than boys do."
- \Box "Boys like fish less than girls do."
- $\hfill\square$ "Birds are equally popular with girls and boys."





Check the true statements about these favorite subjects:

- $\hfill\square$ "Country A loves math more than Country B does."
- \Box "Science is the least favorite subject in Country B."
- \Box "Art is more popular in Country B than in Country A."
- \Box "Music has the same fans in both countries."

MCQ 88: Here are pie charts showing the percentage of adults who are obese in Country A and Country B:



Check the true statements about obesity in these countries:

- \Box "Country B has a bigger obesity problem than Country A."
- $\hfill\square$ "More than half of a dults in Country A are obese."
- $\hfill\square$ "Country A has more non-obese adults than Country B."
- \Box "The obesity rate in Country B is higher than 40%."

F.1.4 COMPARING USING CENTRAL TENDENCIES

Ex 89: The girls' average score in math is 87 (B+), while the boys' average is 75 (C). Are girls better at math?

Ex 90: The average salary of employees in Company A is \$65,000, while in Company B, it is \$58,000. Does Company A pay higher salaries on average?

Ex 91: The mean summer temperature in City P is 26°C, while in City Q, it is 29°C. Which city is hotter on average?

Ex 92: The mean household income in Neighborhood A is \$82,000, while in Neighborhood B it is \$68,500. Which

neighborhood has a higher central tendency in income?

F.1.5 INTERPRETING CENTRAL TENDENCY

MCQ 93: In a math exam, the median score for a class was 40 out of 100. To pass, students needed at least 50 out of 100. Check the statements that are true for the teacher:

- \Box "Oh no! Every student failed the exam."
- $\hfill\square$ "Oh no! More than half the students failed the exam."
- $\hfill\square$ "Why didn't we use the CommeUnJeu platform to help them pass?"
- $\hfill\square$ "The class didn't do very well."

MCQ 94: In a health survey, the median daily sugar intake in a community was 35 grams per person. The recommended maximum is 25 grams per person.

Check the statements that are true for health officials:

- □ "We need to act fast! Most people are eating too much sugar."
- $\hfill\square$ "We should start campaigns to cut down on sugar."
- \Box "The community's sugar intake is just fine."

MCQ 95: In a community cleanup, the median amount of trash collected by teams was 60 kilograms. The target was at least 50 kilograms per team.

Check the statements that are true for the organizers:

- $\hfill\square$ "Awesome! Every team beat the target."
- \Box "Awesome! Most teams reached the target."
- \Box "Why didn't we give more resources to hit the target?"
- $\hfill\square$ "The cleanup didn't meet our goals."

MCQ 96: In an economic report, the median yearly salary in a country was \$20,000. The poverty line is set at \$25,000 per year.

Check the statements that are true for policymakers:

- \Box "This is serious! Most people are below the poverty line."
- \square "We need economic changes to help people earn more."
- \Box "The economy is doing great right now."

F.1.6 COMPARING CENTRAL TENDENCY AND DISPERSION

MCQ 97: Company A reports an average salary of \$50,000, while Company B reports an average salary of \$55,000. Can we say that the average salary is higher in Company A?

- \Box Yes
- \square No

 \Box The data are insufficient to answer



MCQ 98: In 2023, the average temperature was 22°C. In 2024, it was 24°C.Can we conclude that temperatures were more variable in 2024?

 \Box Yes

 \Box No

 $\hfill\square$ The data are insufficient to answer

MCQ 99: Store A and Store B both had an average daily sale of \$1500. However, Store A's daily sales ranged from \$1000 to \$2000, while Store B's ranged from \$1400 to \$1600. Were sales more variable in Store A?

 \Box Yes

 \square No

 $\hfill\square$ The data are insufficient to answer

MCQ 100: In a study, the average height of girls was 160 cm, and the average height of boys was 162 cm. Are girls taller than boys on average?

 \Box Yes

 \square No

 $\hfill\square$ The data are insufficient to answer

MCQ 101: In Country X, the interquartile range (IQR) of salaries was \$20,000 in 2022and \$25,000 in 2023.Does this indicate greater salary inequality in 2023?

□ Yes

 \square No

 $\hfill\square$ The data are insufficient to answer

F.1.7 COMPARING CENTRAL TENDENCY AND DISPERSION

Ex 102: In Country X, the interquartile range (IQR) of salaries was \$20,000 in 2022 and \$25,000 in 2023. Does this indicate greater salary inequality in 2023?

Ex 103: In two schools, the average grade on the national math exam was 14 out of 20. However, in School A, the interquartile range (IQR) was 4, while in School B, it was 7. Which school had more variability in students' results?

Ex 104: In City X, the average income in 2023 was \$40,000 with an interquartile range (IQR) of \$10,000.In City Y, the average income was \$45,000, but the IQR was \$18,000.Which city shows more income disparity?

Ex 105: Investment A had an average return of \$5,000 per year, with an interquartile range (IQR) of \$2,000.Investment B had an average return of \$6,000 per year, with an IQR of \$4,000.If we only care about average return, which investment is more attractive?

Ex 106: Investment A had an average return of \$5,000 per year, with an interquartile range (IQR) of \$2,000.Investment B had an average return of \$6,000 per year, with an IQR of \$4,000.If we prefer a safer investment with more predictable returns, which one should we choose?

F.1.8 INTERPRETING BOX PLOT

MCQ 107: This box plot shows how many minutes passengers waited in an airport lounge:



Check the true statements airport staff might say about the wait times:

- □ "Half the passengers wait more than 50 minutes, so we need more seats and fun things to do."
- \square "Since 25% wait over 62 minutes, we should speed up security and check-in."
- $\hfill\square$ "The shortest wait time was 72 minutes."

 \mathbf{MCQ} 108: This box plot shows how many minutes passengers waited in an airport lounge:



Check the true statements airport staff might say about the wait times:

□ "The middle 50% of wait times spread across 23 minutes, showing a big range in waiting."



- □ "The longest wait was 30 minutes, so everything's running smoothly."
- $\hfill\square$ "Most passengers wait between 39 and 62 minutes, which is okay for us."

MCQ 109: This box plot shows students' scores on a reading test (out of 100):



Check the true statements test organizers might say about the scores:

- $\hfill\square$ "Half the students scored over 65, so lots of them did well on reading."
- □ "Since 25% scored below 50, some students might need extra reading help."
- \Box "The lowest score was 90."

MCQ 110: This box plot shows students' scores on a reading test (out of 100):



Check the true statements test organizers might say about the scores:

- □ "The middle 50% of scores spread across 30 points, showing a wide range of reading skills."
- $\hfill\square$ "The highest score was 30, so the test might've been too hard."
- \Box "Most students scored between 50 and 80, which is a good sign for the class."

F.1.9 COMPARING BOX PLOTS

MCQ 111: These box plots show the daily temperatures (in °C) in City A and City B over a year:



Imagine you're a weather expert. Check the true statements about these cities:

- □ "City A's temperatures stay closer together all year than City B's."
- □ "City A has milder weather with fewer super hot or cold days than City B."

MCQ 112: These box plots show the yearly salaries (in thousands of dollars) in State A and State B:



MCQ 113: These box plots show the hours of sleep per night for teens in School X and School Y over a month:



Imagine you're a sleep scientist. Check the true statements about these teens:

- □ "Teens in School X have more regular sleep hours than those in School Y."
- $\hfill\square$ "School X teens usually sleep more than the sleep iest teens in School Y."

(°±°)