

All-Star Data Lab

Read the dot plot, then find mean, median, mode and range. Made-up teams and players only – show every step!

Name _____

Date _____

STATS TOOLKIT

Mean

average =
sum ÷ count

Median

middle value
when ordered

Mode

value that
appears most

Range

max – min
of the data



MEAN · MEDIAN · RANGE

SCRIMMAGE POINTS · 7 GAMES

Dot plot of points scored by the made-up DraftKids All-Stars



Data set: 12, 18, 9, 15, 21, 18, 15 · Each dot = one game

ROOKIE

- 1 What is the **mean** (average) of the seven game scores? Round to **1 decimal place**.

WORK SPACE

ROOKIE

- 2 What is the **median** score?

WORK SPACE

STARTER

- 3 What is the **range** of the scores? (highest – lowest)

WORK SPACE

STARTER

- 4 This data set is **bimodal** (two values appear most often). What are the two modes?

WORK SPACE

PRO

- 5 In how many games did the All-Stars score **18 or more** points?

WORK SPACE

PRO

- 6 What **percent** of the seven games were 18 or more points? Round to **1 decimal place**.

WORK SPACE _____ %

ALL-STAR

- 7 Write the seven scores in order from **least to greatest**.

WORK SPACE

CHALLENGE ★

- 8 A new eighth game scores **9** points. Does the median stay the same or change? Does the mean go up or down?

WORK SPACE

A Head-to-Head Series

Five matches between the Coral Cats and Harbor Hawks (made-up).

MATCH	CATS	HAWKS	WINNER
Match 1	2	1	
Match 2	1	2	
Match 3	3	2	
Match 4	0	1	
Match 5	4	1	

Cats goals: 2, 1, 3, 0, 4. Hawks: 1, 2, 2, 1, 1.

1 For each match, write the winner in the blank column (Cats, Hawks, or Tie).

2 What is each team's **mean** number of goals? Cats _____ Hawks _____

3 What is each team's **median** number of goals? Cats _____ Hawks _____

4 Which team has the larger **range**, and by how many goals?

B Field-Goal Set

Use the list. Order it before finding the median.

Field goals made by 10 made-up Hoops players in one game:
3, 5, 5, 6, 7, 8, 8, 8, 9, 11

1 What is the **mean** number of field goals? (Do not round – it is a whole number.)

2 What is the **median** number of field goals?

3 What is the **range** (highest – lowest)?

4 How many players made exactly **8** field goals?

C Outlier Check

See how one extreme value pulls the mean.

1 Data set: **4, 6, 6, 10, 14**. What is the mean?

WORK SPACE

2 Using the same data set, what is the median?

WORK SPACE

3 Using the same data set, what is the range?

WORK SPACE

4 A new value **20** is added to the set. What is the new mean?

WORK SPACE

Answer Key (for teachers & parents)

Answers for **All-Star Data Lab**, with the work shown where it helps. Print pages 1 and 2 for students, and keep this page for checking.

Page 1 Problems

1. **15.4** ($108 \div 7$)
2. **15**
3. **12** ($21 - 9$)
4. **15 and 18** (each appears twice)
5. **3** (18, 21, 18)
6. **42.9%** ($3/7$)
7. **9, 12, 15, 15, 18, 18, 21**
8. **Median same (15); mean down** (to 14.625)

Quick score

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B · Field-Goal Set	_____ / 4
C · Outlier Check	_____ / 4
Total	_____ / 20

A · Head-to-Head Series

1. **C, H, C, H, C** (Cats win 3, Hawks 2)
2. **Cats 2.0 · Hawks 1.4**
3. **Cats 2 · Hawks 1**
4. **Cats by 3** (range 4 vs 1)

Skills practiced

Mean / median / mode Range Dot plots
Comparing data sets Outliers Percents from data

Teaching tip: Have students order every data set before finding the median. For bimodal sets, accept both modes. Discuss why an outlier pulls the **mean** more than the median.

B · Field-Goal Set

1. **7.0**
2. **7.5** ($(7+8)/2$)
3. **8** ($11 - 3$)
4. **3**

C · Outlier Check

1. **8** ($40 \div 5$)
2. **6**
3. **10** ($14 - 4$)
4. **10** (mean rose from 8 → 10)