

Grade 7 data and probability test

NAME	DATE	SCORE / 8
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Answer each question. Show your work.

- 1 The list shows how many goals each team scored: 12, 9, 6, 1, 5, 6, 7, 2. What is the mean absolute deviation of the data?

- 2 A fair number cube has faces 1 to 6. Give the probability of rolling a 5, as a fraction.

- 3 In a random sample of 20 homes in a town, the mean number of pets is 1.9 per home. The town has 1,290 homes. About how many pets are in all the homes in the town?

- 4 A red number cube and a blue number cube are rolled. What is the probability that the sum is 8? Write it as a fraction.

- 5 The probability that a seed sprouts is 80%. What is the probability that the seed does not sprout? Write it as a percentage.

- 6 To estimate how many hours adults in a town work each week, Emma asks people at a park on a weekday afternoon. Who is likely to be over-represented in the sample?

- ☐ Adults who work long hours
☐ Adults who work few hours
☐ No one, since every adult had the same chance of being asked

- 7 A spinner is $\frac{1}{4}$ red. It lands on red in 8 of 20 spins. The model predicts 5 reds. Why can the result differ from the model?

- ☐ With few trials, results vary by chance
☐ The spinner must be unfair
☐ The next few trials will make up for it
☐ The model must be wrong

- 8 These numbers are in order: 19, 21, 23, 24, 28, 30, 34, 49. Using the $1.5 \times \text{IQR}$ test, is 49 an outlier?

- ☐ Yes ☐ No

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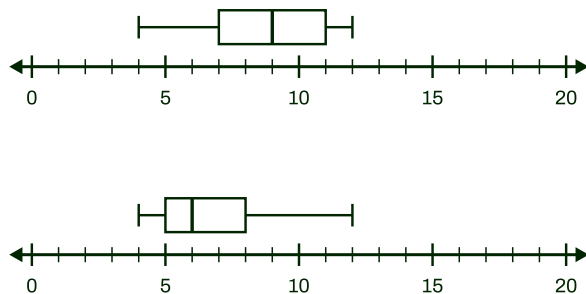
NAME	DATE	SCORE / 4
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Answer each question. Show your work.

- 9** Five groups each took a random sample of 20 students at the same school. The numbers of students who bring lunch from home were 13, 12, 13, 10 and 9. Why are the five results different?

- ☐ Each sample has different students in it, so results vary by chance
- ☐ Some groups must have counted wrong
- ☐ A random sample should always give the same number
- ☐ The school must have changed between samples

- 11** The box plots show points per game: Team A on top, Team B below. Which team tends to score more points?

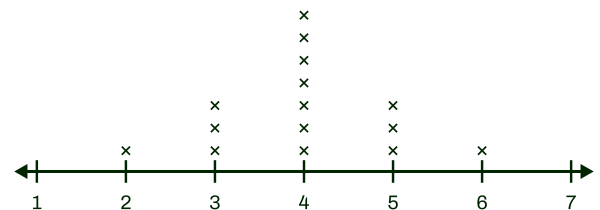


- ☐ Team B ☐ Team A

- 10** Bus A and Bus B each made the same trip on 6 days. Bus A took 36, 22, 33, 23, 29 and 31 minutes. Bus B took 29, 29, 30, 28, 27 and 31 minutes. Which bus has more consistent trip times?

- ☐ Bus A ☐ Bus B

- 12** The line plot shows how many books each student read last month. Which summary describes the data correctly?



- ☐ The median is 7 books, the range is 4 books, and the data is symmetric.
- ☐ The median is 4 books, the range is 4 books, and the data is symmetric.
- ☐ The median is 4 books, the range is 4 books, and the data is skewed right.
- ☐ The median is 4 books, the range is 6 books, and the data is symmetric.

Grade 7 data and probability test

- 1

2.5
- 2

$\frac{1}{6}$
- 3

2451
- 4

$\frac{5}{36}$
- 5

20%
- 6

Adults who work few hours
- 7

With few trials, results vary by chance
- 8

Yes
- 9

Each sample has different students in it, so results vary by chance
- 10

Bus B
- 11

Team A
- 12

The median is 4 books, the range is 4 books, and the data is symmetric.