## Outliers Worksheet

1. Find the outlier(s) of the data set. $43,69,49,78,88,54,73,194,54,59,70,2)$
2. Find the outlier(s) of the data set. $40,62,47,68,12,78,49,65,49,52,63,3)$
3. Find the outlier of the data set. $44,67,52,72,82,55,70,200,55,57,68$
4. The following table gives the math scores of 10 friends:

| Name | Math score <br> $(\%)$ |
| :--- | :---: |
| Albert | 46 |
| Beth | 29 |
| Cindy | 35 |
| David | 93 |
| Emily | 37 |
| Frank | 38 |
| Gary | 45 |
| Helen | 44 |
| Ida | 46 |
| Jeremy | 31 |

If the score of the outlier is not included, what is the mean score?

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5. The temperatures (in ${ }^{\circ} \mathrm{F}$ ) recorded in Saskatoon at noon on each day for two weeks were as follows:
$81,78,77,75,80,82,84,78,74,75,49,71,76,80$

If the outlier is excluded, what was the mean temperature?
6. Miss Jones has 30 students in her math class.

In the recent exam, her students averaged 67\%.
But Miss Jones told Principal Schultz that her students had averaged 71\%.

In order to impress Principal Schultz, Miss Jones had excluded the two outliers in her class who had scored very low marks.

What was the mean mark of those two poor students?
7. 50 children guessed the number of marbles in a jar and the average guess was 627. However three of the guesses were way too high and so were excluded from the competition.
When these three outliers were excluded, the average guess was reduced by 114.

What was the mean of the three outliers?

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8. Given the following data: $164,175,126,135,159,143,55$
a. What effect will the outlier have on the median of the data if the outlier is excluded?
b. What effect will the outlier have on the mean of the data if the outlier is excluded?
c. What effect will the outlier have on the mode of the data if the outlier is excluded?
d. What effect will the outlier have on the range of the data if the outlier is excluded?
9. If Miguel earned the following test scores $89,92,86$, and 97 , his average (mean) test score would be 91 . The teacher entered his scores in as 89, 92, 68 and 97.
a. How is his mean going to change?
b. If he were to not turn in a take home test and got a 0 , how would his average change?
10. The grade 9 class has an average height of 5 feet 9 inches. A new student joins the class and brings the average down to 5 feet 4 inches. Should you exclude the new student from the calculation? Explain your answer.
