

Problem Solving With the Mean: Classwork

1. Solve each equation and show each step.

a. $\frac{x+5}{8} = 6$

b. $\frac{7+a}{4} = -5$

c. $\frac{n-9}{7} = -8$

2. The mean of the numbers 2.4, 2.9, 3.5, and x is 3.1. Find the value of x .
3. The mean of the numbers 5, 7, 7, 9, 10, 11, 11, and y is 9.5. Find the value of y .
4. Jimmie bowls in a league. In the first two games of the new season, he scored 138 and 143. What must he score in his third game in order to have an average (mean) of 159 for the season?
5. Martha has taken four math tests so far this quarter, with scores of 89, 94, 91, and 79. She only has one test left to take, and she needs the mean of all the tests to be greater than 90. What does she need to score on that last test? *Hint: write an inequality!*

6. The mean of Ryan's first four quiz scores is 87. What would the score of his next quiz have to be so that the mean of all five quizzes would be 90? Show your work.
7. Ms. Darbus has given her students six spelling tests this semester. For their final grade, she removes the two lowest test scores and then calculates the mean.
- a. Zeke has the following spelling test scores: 62, 83, 55, 88, 87, and 90. After the lowest two scores are removed, what would be Zeke's final grade? Clearly show or explain how you found your answer.
- b. The mean of Chad's six tests is 85. When the lowest two are removed, the mean of the remaining four tests is 90. What is the sum of the two removed scores? Clearly show or explain how you found your answer.
8. Five students took a quiz. The low was 24, the range was 11, the mode was 28, and one student scored 5 above the median. What was the mean? Show your work.
9. At a diving competition, Jason's dive receives seven scores with a mean of 9.0. For his final score, the greatest and least scores are removed and the mean of the remaining scores is calculated. Jason's final score for the dive is 9.1. What is the sum of the two removed scores? Explain.

Problem Solving With the Mean: Homework

10. Solve the following inequalities and graph each solution. All answers will be whole numbers

a. $\frac{x-11}{-3} > 9$

b. $\frac{x+16}{-6} \leq -11$

11. The mean of the numbers 6, 7, 9, 11, and x is 9. Find the value of x . Show your work.

12. Troy has misplaced one of his algebra quizzes. The scores on the quizzes he has are 82, 71, 83, 91, and 78. He knows that the mean of all six quiz scores is 79.5. What is the score on the missing quiz? Show your work.