Name _____ Date_____

Solving Problems by Finding Equivalent Ratios

Students surveyed boys and girls separately to determine which sport was enjoyed the most. After completing the boy survey, it was determined that for every 3 boys who enjoyed soccer, 5 boys enjoyed basketball. The girl survey had a ratio of the number of girls who enjoyed soccer to the number of girls who enjoyed basketball of $7:1$. If the same number of boys and girls were surveyed, and 90 boys enjoy soccer, how many girls enjoy each sport?

1. Shelley compared the number of oak trees to the number of maple trees as part of a study about hardwood trees in a woodlot. She counted 9 maple trees to every 5 oak trees. Later in the year there was a bug problem and many trees died. New trees were planted to make sure there was the same number of trees as before the bug problem. The new ratio of the number of maple trees to the number of oak trees is $3:11$. After planting new trees, there were 132 oak trees. How many more maple trees were in the woodlot before the bug problem than after the bug problem? Explain.

2. The school band is comprised of middle school students and high school students, but it always has the same maximum capacity. Last year the ratio of the number of middle school students to the number of high school students was $1:8$. However, this year the ratio of the number of middle school students to the number of high school students changed to $2:7$. If there are 18 middle school students in the band this year, how many fewer high school students are in the band this year compared to last year? Explain.

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The girl survey would show that 210 girls enjoy soccer, and 30 girls enjoy basketball.

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   There were 72 more maple trees before the bug problem than after because there were 108 maples trees before the bug problem and 36 maple trees after the bug problem.

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   There are 9 fewer high school students in the band this year when compared to last year because last year. There were 72 high school students in the band, and this year there are only 63 high school students in the band.