

Five Problems

1. Aunt Alice gave each of her three nieces a number of silver dollars equal to their ages. The youngest felt this was unfair. They agreed to redistribute the money. The youngest would split half of her silver dollars evenly with the other two sisters. The middle sister would then give each of the others 4 silver dollars. Finally, the oldest was to split half of her dollars equally between the two sisters. After exchanging the money, each girl had 16 silver dollars. How old were the sisters?
2. When she was visiting grandpa's farm, Trisha saw that he raised only hens and hogs. She counted 38 heads and 100 feet in the barnyard. How many animals were hens and how many were hogs?
3. Sandy is organizing a basketball league. She needs to know how many games will be played so she can reserve the gym. If there are 8 teams and each team plays each of the other teams twice, how many games will be played?
4. Four men were shipwrecked on an island. Having no food, they went to work gathering coconuts. After gathering coconuts, they were tired and all fell asleep. After a while, one of the men awoke and was very hungry, so he ate $\frac{1}{3}$ of the coconuts - more than his proper share. He then went back to sleep. Then the second man awoke and, being very hungry, ate $\frac{1}{3}$ of the remaining coconuts and then went back to sleep. The third man did the same. When the fourth man awoke, he took only his rightful share of the remaining coconuts. There were 6 coconuts left. How many did the men gather?
5. Troy gave some apples to each of his three brothers. To the oldest he gave half of the apples and half an apple. He then gave half of what he had left and half an apple to his second brother. Finally, he gave half of what he then had left and half an apple to his youngest brother. He then had no apples left. At no time were any apples cut, split, or divided. How many apples did Troy have at the start?