

Proportions and Probability

1) Emily, Peter and Calie have made a pact that any two combinations of them will save the same amount of money together such that the money saved by any two of them is equal to ~~the~~ double of the money saved by the third person.

(i) Find the ratio of money saved by
Emily : Peter : Calie

(ii) Next month they decide to make the "double" factor into a 'triple' factor. What is the amount of money saved by each one of them in this month?

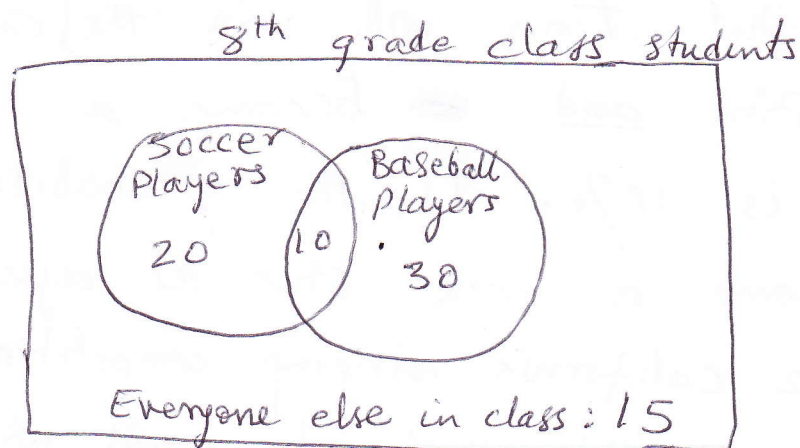
2) Emily, Peter and Calie are updating their savings plan this month. Emily makes \$2000 per month, Peter makes \$3000 per month and Calie makes \$4000 per month. They have decided that they will save money in the proportion of their incomes [if they save any money]. Each of them has fixed monthly expenses of \$1500, and the rest are variable expenses, and the probability of any of them saving at all is equal to the ratio of money left after fixed expenses and their total income.

(i) What is the expected saving (defined as Probability of saving * Amount of saving they decided) of Emily

(ii) What is the expected saving of Peter?

3) Probability that Tina will win the ²⁰¹² California singing competition and ~~be~~ become a rock star at age 18 is 10%. If the probability that Tina will become a rock star at age 18 ~~if~~ she wins 2012 California singing competition is 30%, what is the probability that she will win the 2012 California singing competition?

Problem 4.



find the Probability that

- (i) A randomly picked soccer player is also a baseball player
- (ii) A randomly picked player of baseball or soccer, happens to play both sports
- (iii) A randomly picked player of baseball only plays baseball
- (iv) A randomly picked person from the class is a player of at least one of baseball or soccer.

Problem 5) In a new community being developed,

there are 7 homes being constructed on a street. All homes are going to be completed together, and put on the market. This month, the builder expects 3 of the homes to sell.

What is the probability that first three homes (1..3) will not be sold this month? Assume equal likelihood of each home's sale.



H1



H2



H3



H4



H5



H6



H7

△ street

Problem 6 ~~There~~ There is a boy called Tommy who is continuously tossing a 'fair' coin. What are the chances that he will get the following combinations in consecutive coin tosses:

(i) H T T

(ii) T H H

(iii) H H H H

(iv) T H H T

(v) H H H H H T