

Challenge #1

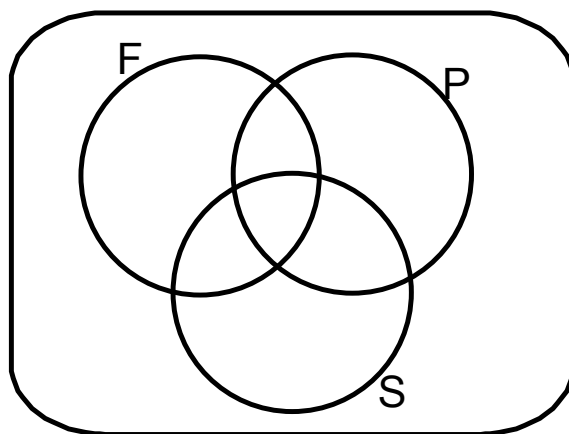
Pascal, Fibonacci and Sommerville are playing a game with their favorite numbers. Pascal likes powers of 2, including 2^0 . Fibonacci likes the numbers in his famous sequence 1,1,2,3,5,.... Sommerville likes perfect squares. Each person has one copy of each of their favorite numbers less than fifty. In alphabetical order, they take turns placing their lowest number in the proper region of the Venn Diagram. It must be one which has not been placed there before because each may appear only once.

What does the Diagram look like at the end of the game?

Which region has no numbers in it?

Who has the most exclusive numbers?

Who runs out of numbers first?



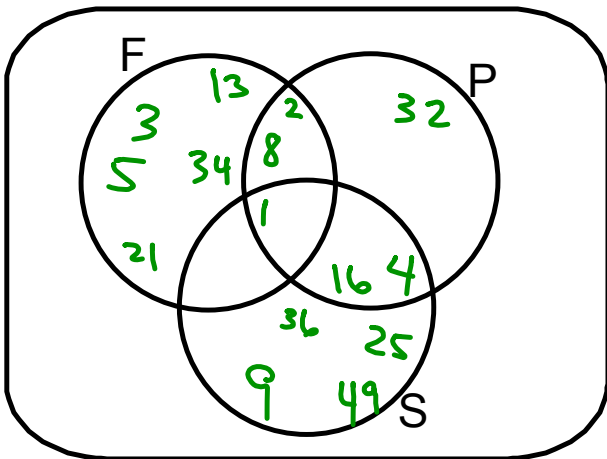
Challenge #1 Solution

Numbers less than 50.

F ~ Fibonacci numbers = $\{1, 2, 3, 5, 8, 13, 21, 34\}$

P ~ Powers of 2, including $2^0 = \{1, 2, 4, 8, 16, 32\}$

S ~ Square numbers = $\{1, 4, 9, 16, 25, 36, 49\}$



Rules:

- play lowest number that has not been played.
- Put it in proper region of the Venn Diagram.
- The winner has the most numbers not shared by others.

What does the Diagram look like at the end of the game?

Which region has no numbers in it? ① F and S, but not P
② U only

Who has the most exclusive numbers?

Who runs out of numbers first?

F
P