Greatest Common Factor Notes

key

What does each word mean?
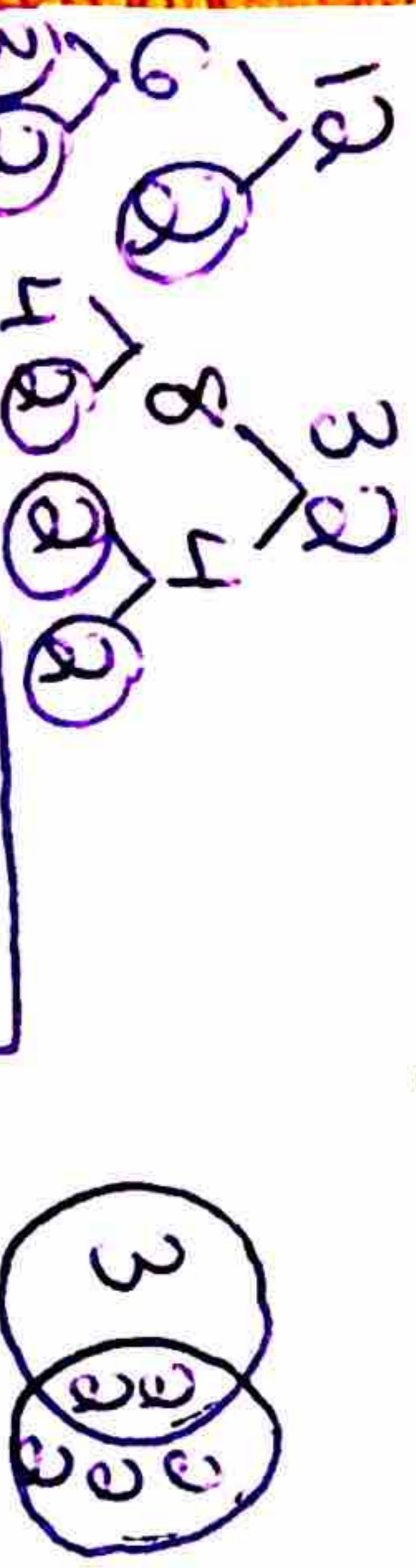
Greatest: large, extreme, numerous

Common: belonging, shared

Factor: one of two or more numbers taken multiplied produce a given product

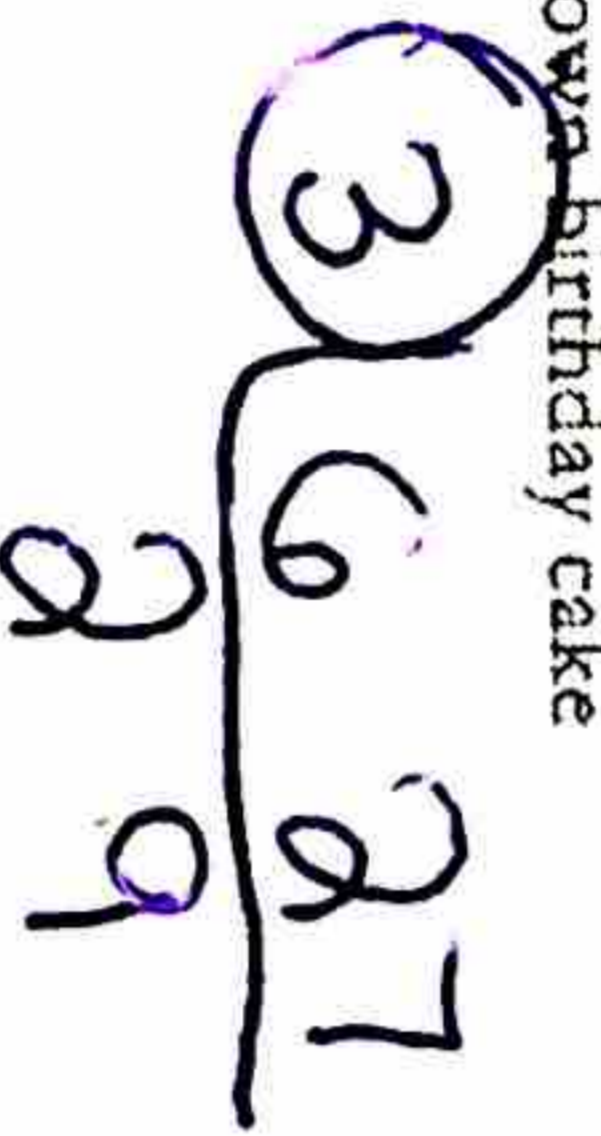Come up with a math definition that incorporates all three words

Greatest Common Factor: shared by 2 or more numbers. the largest factor shared by 2 or more numbers.

3 methods

Ex) Find the GCF of 6 and 9

List the factors of 6: 1, 2, 3, 6

List the factors of 9: 1, 3, 9

Ex) Find the GCF of 12 and 32
Use a factor tree and Venn Diagram

12
6 2
3 2

32
4 8
2 2 2 4

$2^2 \cdot 3$ 2^5

GCF = 4

Venn: 3 / 2 2 / 2 2 2

Ex) Find the GCF of 6 and 27
Use an upside down birthday cake

3 | 6 27
    2   9

③

Ex) Find the GCF of 5 and 21 (choose your method)
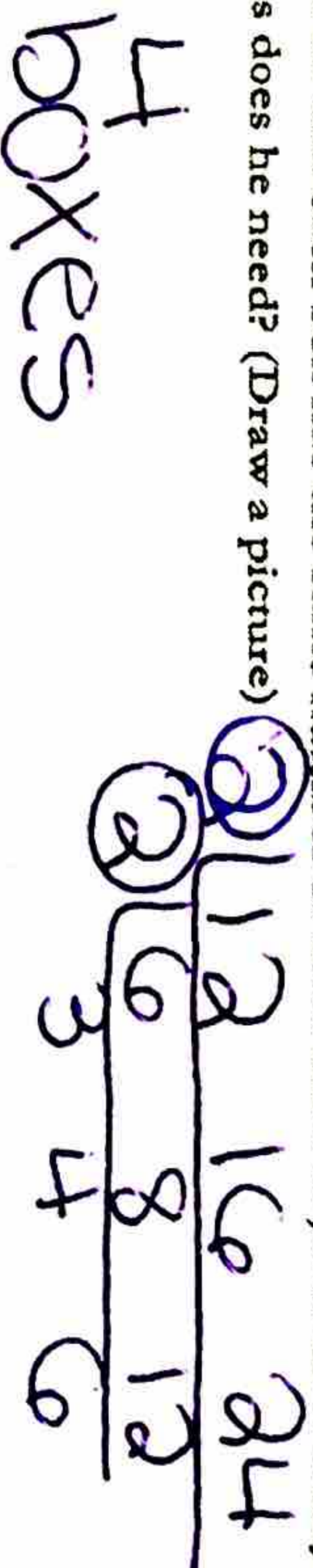
NONE   *they have 2 sets of 2's in common

What happens when they don't have any numbers in common?
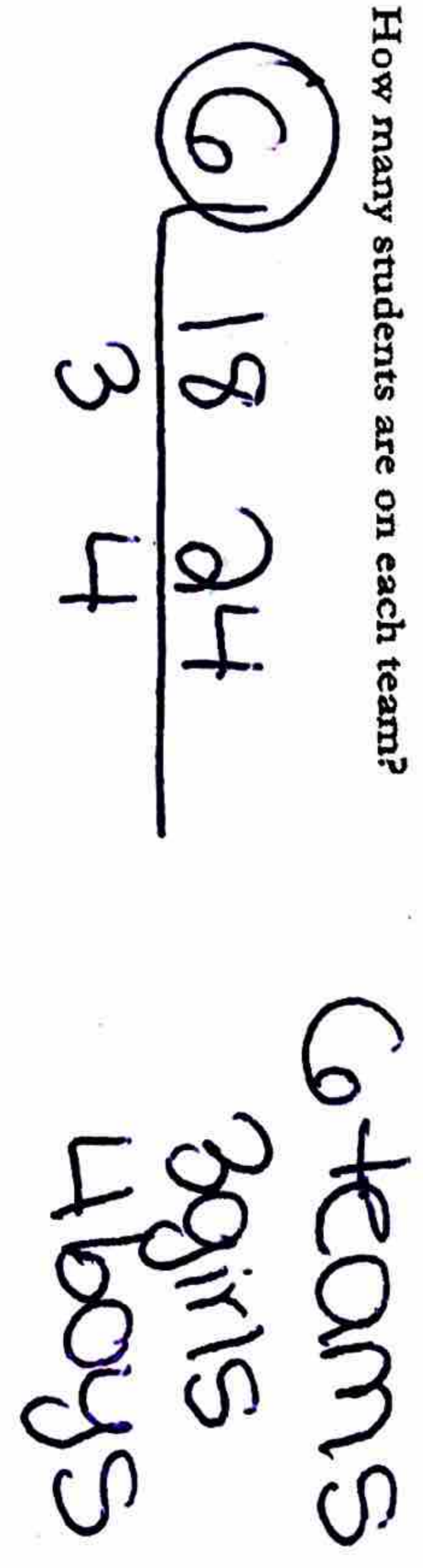
THE GCF = 1

Ex) Jared has 12 jars of grape jam, 16 jars of strawberry jam and 24 jars of raspberry jam. He wants to place the jam into the greatest possible number of boxes so that each box has the same number of each kind of jam. How many boxes does he need? (Draw a picture)

4 | 12 16 24
4   3   4   6

4 boxes

How many of each kind of jam will go in each box?

3 GRAPE   4 STRAWBERRY   6 RASPBERRY

How many jars are in each box? **13**

Ex) There are 18 girls and 24 boys in Mrs. Andrew's gym class. To play a certain game, the students must form teams. Each team member must have the same number of boys and girls. What is the greatest number of teams Mrs. Andrew's can make if every student is on a team? (draw a picture)

6 | 18 24
3   4

6 teams

3 girls
4 boys

How many students are on each team?

7 students on each team

4