

Build the fraction from the group

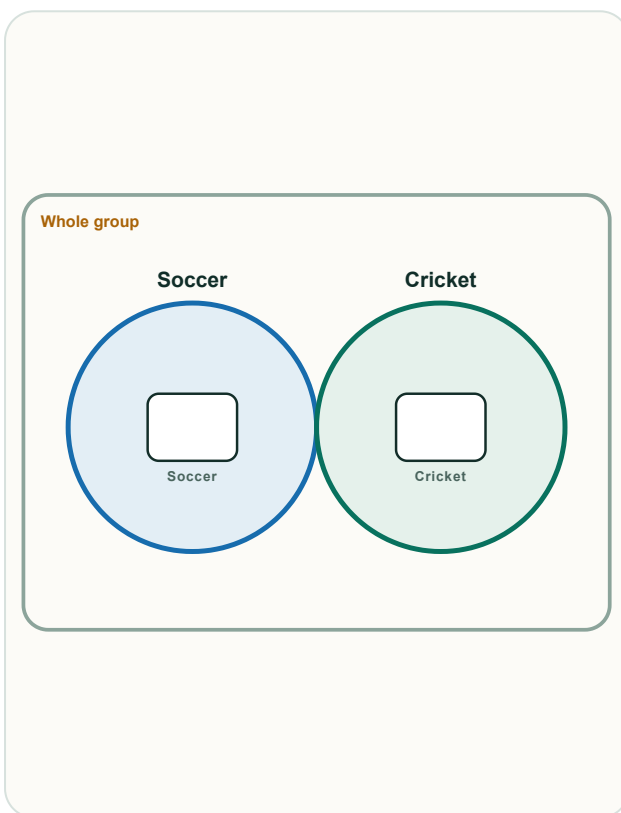
Name _____

Date _____

Information: 10 students play soccer. 10 students play cricket. No student plays both sports.

1. Complete the Venn diagram

Place each number in the region described by the words.



Read the statement carefully. Write each supplied number in its correct Venn region.

Now form the probability

What is the probability of selecting a student who is in Soccer?

1 How many students are in the total group?

This number belongs in the **denominator**.

2 How many students are in Soccer?

This number belongs in the **numerator**.

So the probability is

$P(\text{Soccer})$
=

NUMERATOR

DENOMINATOR

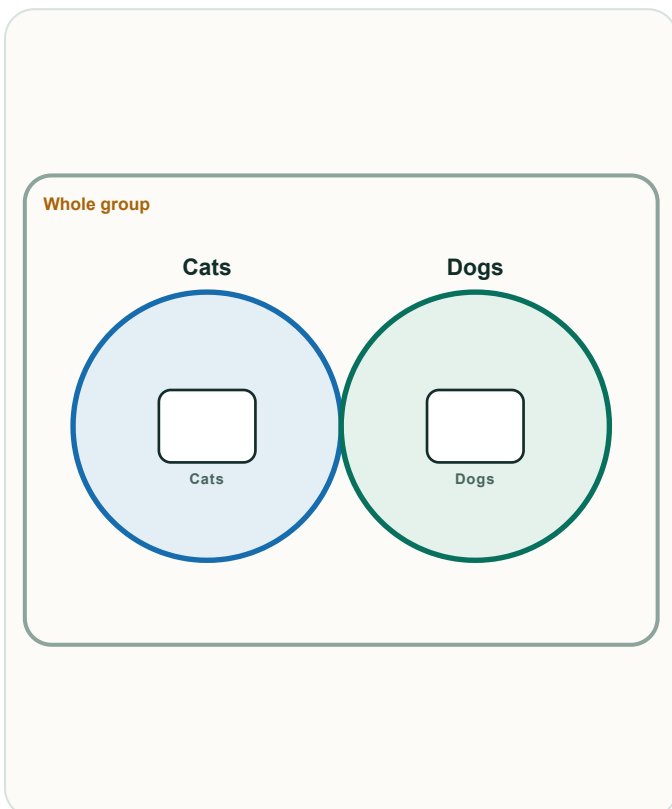
Check: numerator _____ denominator _____

Build the fraction from the group

Information: 7 students prefer cats. 9 students prefer dogs. No student chose both.

1. Complete the Venn diagram

Place each number in the region described by the words.



Read the statement carefully. Write each supplied number in its correct Venn region.

Now form the probability

What is the probability of selecting a student who is in Dogs?

- 1** How many students are in the total group?

This number belongs in the **denominator**.

- 2** How many students are in Dogs?

This number belongs in the **numerator**.

So the probability is

$$P(\text{Dogs}) =$$

NUMERATOR

DENOMINATOR

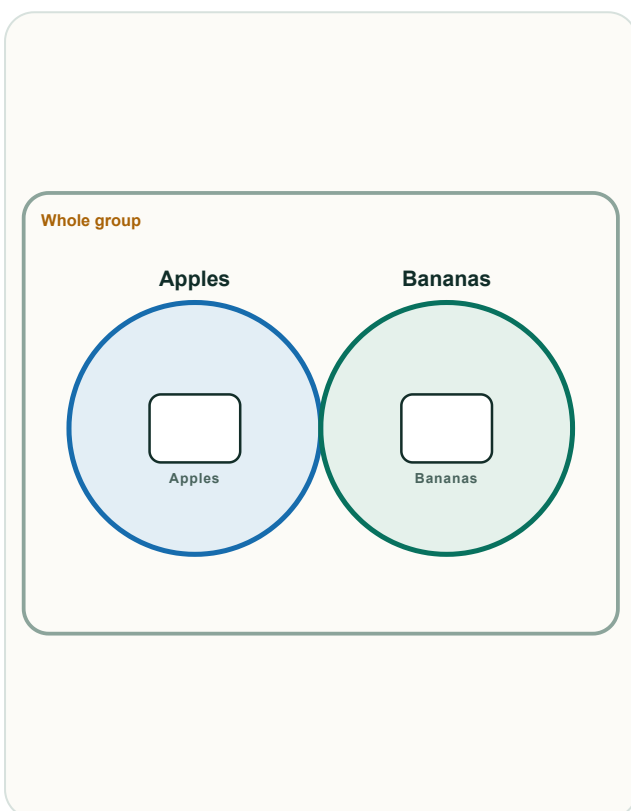
Check: numerator _____
denominator _____

Build the fraction from the group

Information: 12 students chose apples. 5 students chose bananas. No student chose both fruits.

1. Complete the Venn diagram

Place each number in the region described by the words.



Read the statement carefully. Write each supplied number in its correct Venn region.

Now form the probability

What is the probability of selecting a student who is in Apples or Bananas?

1 How many students are in the total group?

This number belongs in the **denominator**.

2 How many students are in Apples or Bananas?

This number belongs in the **numerator**.

So the probability is

**P(Apples
or
Bananas)**
=

NUMERATOR

DENOMINATOR

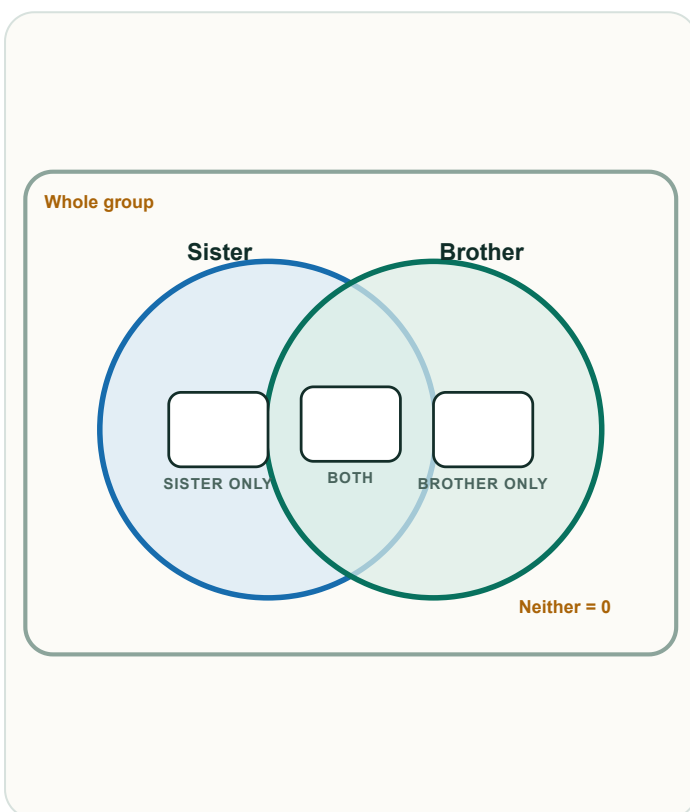
Check: numerator _____ denominator _____

Build the fraction from the group

Information: 10 students have only a sister. 10 students have only a brother. 8 students have both a sister and a brother.

1. Complete the Venn diagram

Place each number in the region described by the words.



Read the statement carefully. Write each supplied number in its correct Venn region.

Now form the probability

What is the probability of selecting a student who is in a Sister?

- 1** How many students are in the total group?

This number belongs in the **denominator**.

- 2** How many students are in a Sister?

This number belongs in the **numerator**.

So the probability is

P(a Sister)
=

NUMERATOR
DENOMINATOR

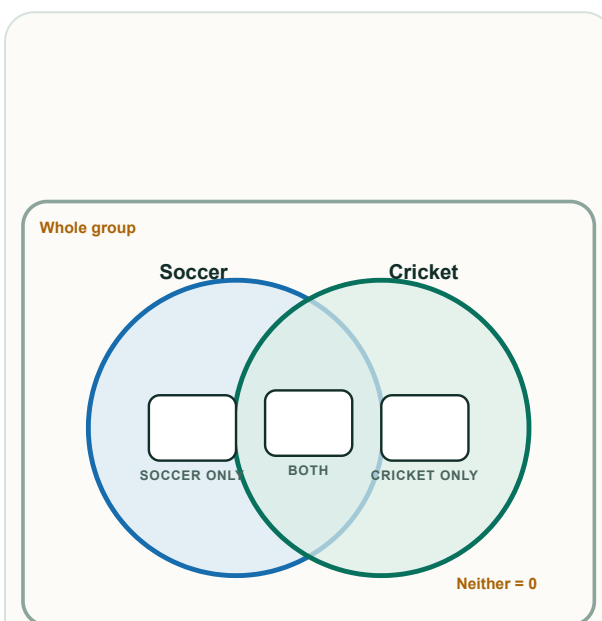
Check: numerator _____
denominator _____

Build the fraction from the group

Information: 12 students play only soccer. 9 students play only cricket. 5 students play both sports.

1. Complete the Venn diagram

Place each number in the region described by the words.



Read the statement carefully. Write each supplied number in its correct Venn region.

Now form the probability

What is the probability of selecting a student who is in Cricket?

1 How many students are in the total group?

This number belongs in the **denominator**.

2 How many students are in Cricket?

This number belongs in the **numerator**.

So the probability is

P(Cricket)

=

NUMERATOR

DENOMINATOR

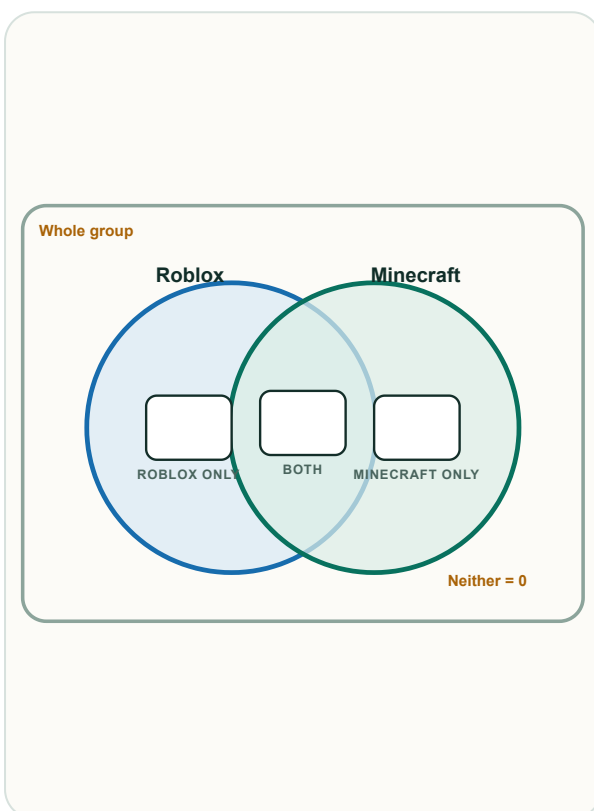
Check: numerator _____ denominator _____

Build the fraction from the group

Information: 7 students play only Roblox. 11 students play only Minecraft. 6 students play both games.

1. Complete the Venn diagram

Place each number in the region described by the words.



Read the statement carefully. Write each supplied number in its correct Venn region.

Now form the probability

What is the probability of selecting a student who is in Roblox or Minecraft?

1 How many students are in the total group?

This number belongs in the **denominator**.

2 How many students are in Roblox or Minecraft?

This number belongs in the **numerator**.

So the probability is

**P(Roblox
or
Minecraft)**
=

NUMERATOR

DENOMINATOR

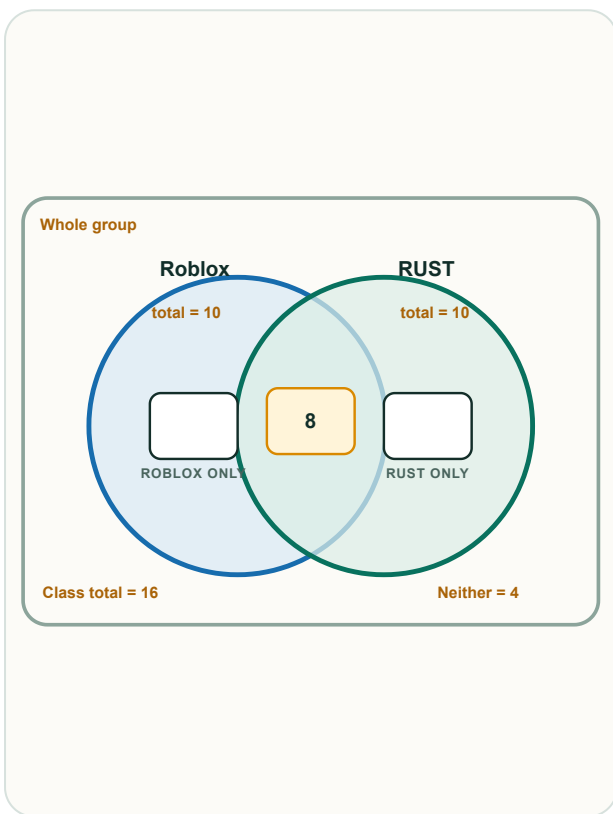
Check: numerator _____ denominator _____

Build the fraction from the group

Information: There are 16 students. 10 play Roblox and 10 play RUST. 8 play both games. 4 play neither game.

1. Complete the Venn diagram

Place each number in the region described by the words.



The overlap and the class information are supplied. Calculate and enter the two **only** regions.

Now form the probability

What is the probability of selecting a student who is in Roblox?

1 How many students are in the total group?

This number belongs in the **denominator**.

2 How many students are in Roblox?

This number belongs in the **numerator**.

So the probability is

$$P(\text{Roblox}) =$$

NUMERATOR
DENOMINATOR

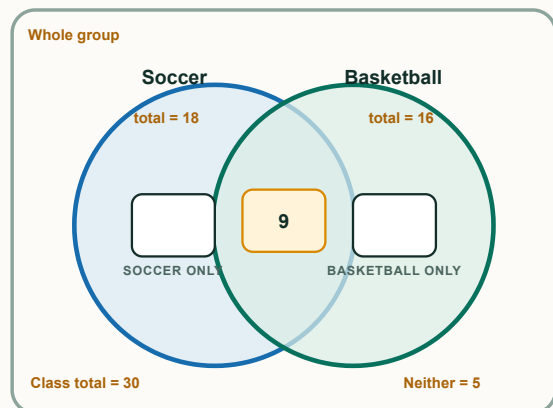
Check: numerator _____ denominator _____

Build the fraction from the group

Information: There are 30 students. 18 play soccer and 16 play basketball. 9 play both sports. 5 play neither sport.

1. Complete the Venn diagram

Place each number in the region described by the words.



The overlap and the class information are supplied. Calculate and enter the two **only** regions.

Now form the probability

What is the probability of selecting a student who is in Soccer and Basketball?

- 1** How many students are in the total group?

This number belongs in the **denominator**.

- 2** How many students are in Soccer and Basketball?

This number belongs in the **numerator**.

So the probability is

$P(\text{Soccer and Basketball})$
=

NUMERATOR

DENOMINATOR

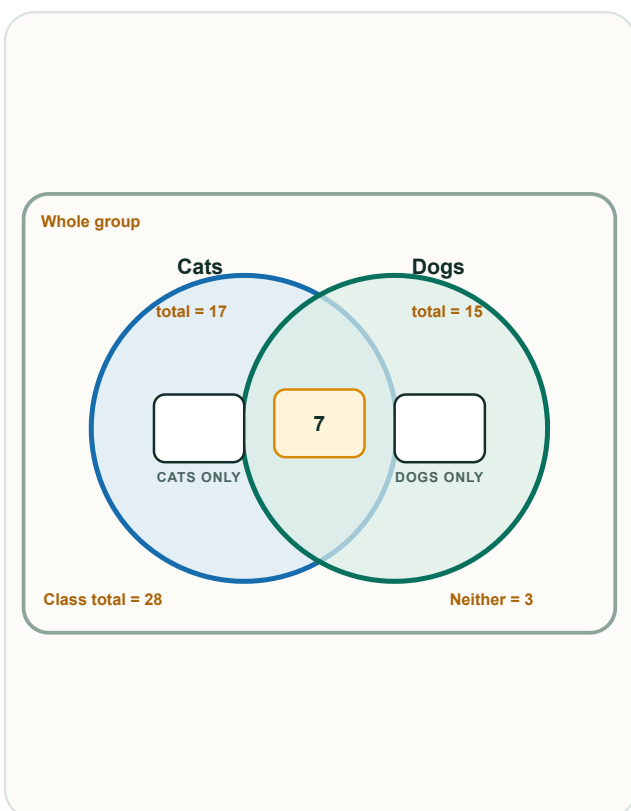
Check: numerator _____ denominator _____

Build the fraction from the group

Information: There are 28 students. 17 like cats and 15 like dogs. 7 like both. 3 like neither.

1. Complete the Venn diagram

Place each number in the region described by the words.



The overlap and the class information are supplied. Calculate and enter the two **only** regions.

Now form the probability

What is the probability of selecting a student who is in neither Cats nor Dogs?

- 1** How many students are in the total group?

This number belongs in the **denominator**.

- 2** How many students are in neither Cats nor Dogs?

This number belongs in the **numerator**.

So the probability is

**P(neither
Cats nor
Dogs) =**

NUMERATOR

DENOMINATOR

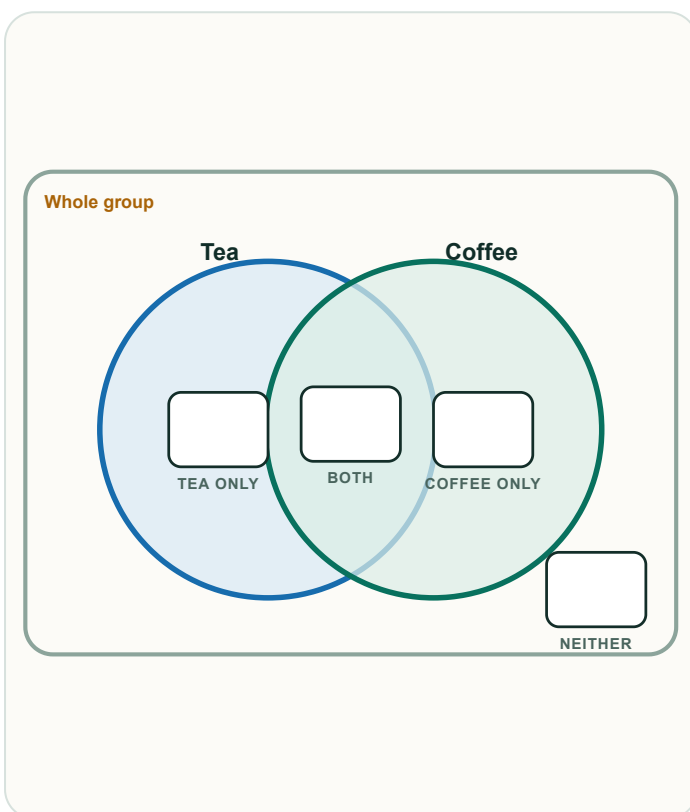
Check: numerator _____ denominator _____

Build the fraction from the group

Information: 5 staff drink only tea. 8 drink only coffee. 3 drink both. 4 drink neither tea nor coffee.

1. Complete the Venn diagram

Place each number in the region described by the words.



Read the statement carefully. Write each supplied number in its correct Venn region.

Now form the probability

What is the probability of selecting a student who is in Tea only?

- 1** How many students are in the total group?

This number belongs in the **denominator**.

- 2** How many students are in Tea only?

This number belongs in the **numerator**.

So the probability is

$P(\text{Tea only}) =$

NUMERATOR

DENOMINATOR

Check: numerator _____
denominator _____

Venn probability scaffold

The probabilities are deliberately shown in their **unsimplified** form. The purpose is to reinforce that the total group goes in the denominator and the requested group goes in the numerator.

Q	Completed Venn regions	Total group (denominator)	Requested group (numerator)	Raw probability
1	Soccer only = 10 Cricket only = 10 Both = 0; neither = 0	20	10	10/20
2	Cats only = 7 Dogs only = 9 Both = 0; neither = 0	16	9	9/16
3	Apples only = 12 Bananas only = 5 Both = 0; neither = 0	17	17	17/17
4	Sister only = 10 Brother only = 10 Both = 8; neither = 0	28	18	18/28
5	Soccer only = 12 Cricket only = 9 Both = 5; neither = 0	26	14	14/26
6	Roblox only = 7 Minecraft only = 11 Both = 6; neither = 0	24	24	24/24
7	Roblox only = 2 RUST only = 2 Both = 8; neither = 4	16	10	10/16
8	Soccer only = 9 Basketball only = 7 Both = 9; neither = 5	30	9	9/30
9	Cats only = 10 Dogs only = 8 Both = 7; neither = 3	28	3	3/28
10	Tea only = 5 Coffee only = 8 Both = 3; neither = 4	20	5	5/20

Teaching prompt: Ask students to point to every Venn region they counted before they write the numerator. This keeps the fraction connected to the completed diagram.