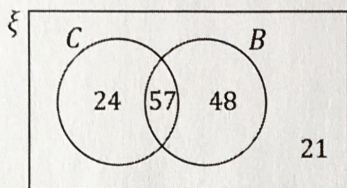


## Probability and Two Set Venns

The Venn diagram shows information of 150 patients in a local surgery. They were asked if they took any medication for cholesterol (C) or blood pressure (B).



A patient is chosen at random.

- Work out the probability that a patient took neither medication.
- Work out the probability that a patient took cholesterol not but blood pressure medication.
- Given that the patient took blood pressure medication, what is the probability that they also took cholesterol medication?

$$(a) \frac{21}{150} = \frac{7}{50}$$

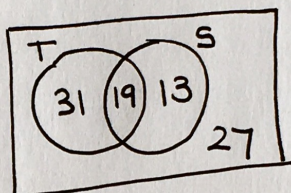
$$(b) \frac{24}{150} = \frac{4}{25}$$

$$(c) \frac{57}{105} = \frac{19}{35}$$

90 people in a sports club were surveyed. 19 play tennis and squash. 50 play tennis. 32 play squash.

- Represent this with a Venn diagram.
- One person is chosen at random.
- Work out the probability that the person chosen does not play tennis
- Work out the probability that the person chosen plays tennis or squash or both.
- Given that the person plays tennis, work out the probability that they also play squash.

(a)



$$(b) \frac{40}{90} = \frac{4}{9}$$

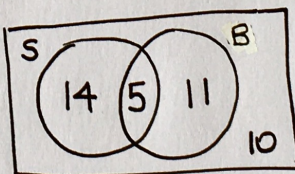
$$(c) \frac{63}{90} = \frac{7}{10}$$

$$(d) \frac{19}{50}$$

In a group of 40 children there are 19 who can swim and 16 who can ride a bike. There are 5 children who can swim and ride a bike.

- Draw a Venn diagram.
- A child is selected at random.
- Find the probability that this child cannot swim or ride a bike.
- Another child is selected at random.
- Given that this child can ride a bike, work out the probability that this child can swim.

(a)



$$(b) \frac{10}{40} = \frac{1}{4}$$

$$(c) \frac{5}{16}$$