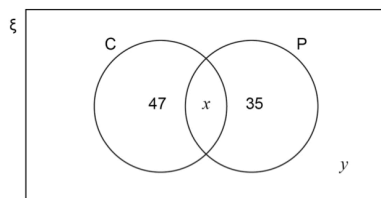


Q1. (2018)

- 25 The Venn diagram shows some information about 150 students.
 ξ = 150 students
 C = students who study Chemistry
 P = students who study Physics



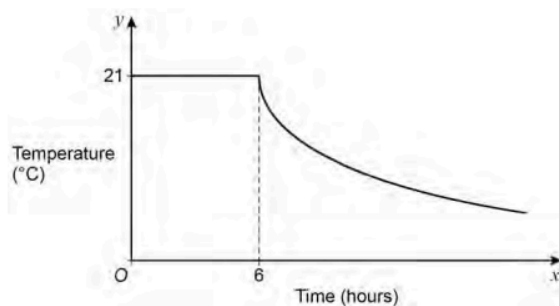
The probability that a Physics student, chosen at random, also studies Chemistry is $\frac{5}{12}$
 One of the 150 students is chosen at random.

Work out the probability that the student does **not** study either Chemistry or Physics.

[4 marks]

Q2. (2024)

- 24 A room is kept at a constant temperature of 21°C for 6 hours.
 The heating is then turned off and the room begins to cool.
 Here is a sketch graph showing the temperature, $y^{\circ}\text{C}$, of the room at time x hours.



(A)

- 24 (a) Assume the equation of the curved part is $y = \frac{k}{x}$ where k is a constant.

Work out the value of y when $x = 12$

[2 marks]

$y =$ _____

(B)

24 (b) In fact,

the equation of the curved part is $y = A \times \left(\frac{1}{3}\right)^{\frac{1}{6}x}$ where A is a **different** constant.

How does this affect the value of y when $x = 12$?

Tick **one** box.

You **must** show working to support your answer.

[2 marks]

☐

The value of y is greater than the answer to part (a).

☐

The value of y is less than the answer to part (a).

☐

The value of y is the same as the answer to part (a).