

WJEC MATHEMATICS

HIGHER
3 TIER TOPICS

VENN DIAGRAMS

@MrGoreMaths.

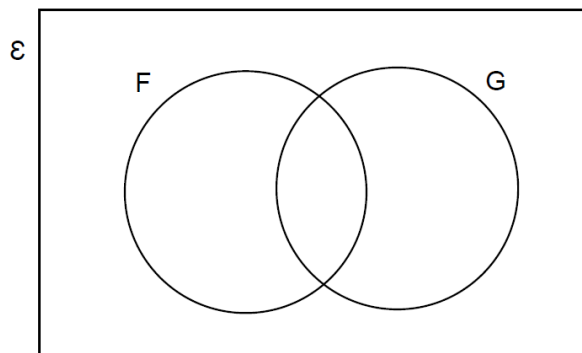
Spec 1 – Maths – P2

14. 30 students in a Year 11 class have decided which subjects they are going to study next year.

- 21 have decided to study French (F)
- 12 have decided to study German (G)
- 5 have decided not to study either French or German.

(a) Complete the Venn diagram below to show this information.
The universal set \mathcal{E} contains all the students in the class.

[2]



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(b) Given that a student, chosen at random, has decided to study French, what is the probability that this student has also decided to study German? [2]

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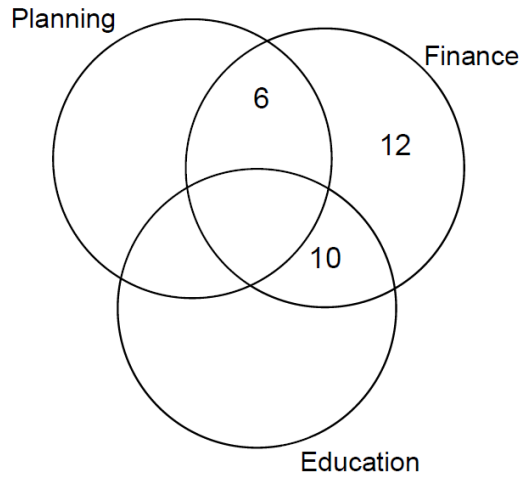
Spec 2 – Maths – P2

4. A total of 45 councillors make up the Planning, Finance and Education committees of a local council.
Some of the councillors sit on two of these committees.
No councillor sits on all three committees.

2 councillors sit on both the Planning Committee and the Education Committee.
There are 18 councillors on the Education Committee.

(a) Complete the Venn diagram.

[3]



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(b) How many councillors sit on both the Planning and Finance committees?

[1]

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(c) One of these 45 councillors is chosen at random.
What is the probability that this councillor is on the Planning Committee?

[2]

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Nov 2016 – Maths – P2

5. At a college, a total of 28 students study one or more of the science subjects: Biology, Chemistry and Physics.

The 28 students form the universal set, ϵ .

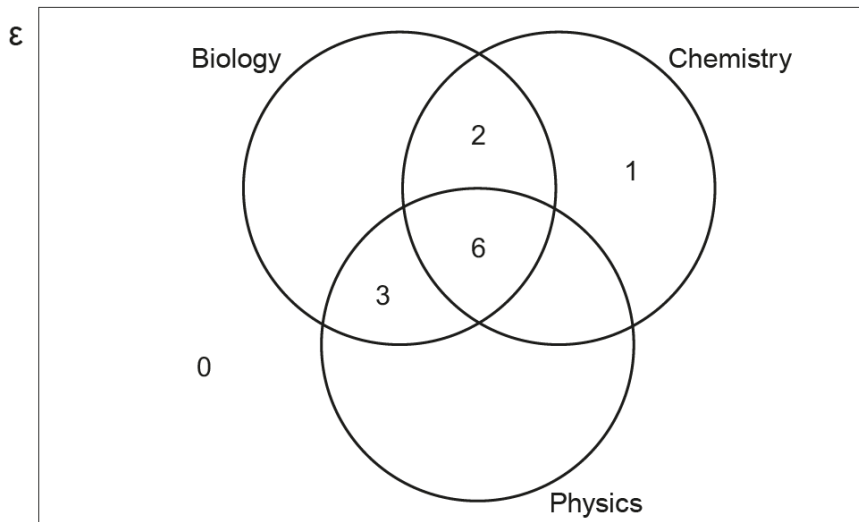
Some parts of the Venn diagram below have already been completed.

It is also known that:

- 5 students study only Biology
- 13 students study Chemistry

(a) Complete the Venn diagram.

[3]



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(b) How many students study Biology and Chemistry but not Physics?

[1]

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(c) One of the students is chosen at random.
What is the probability that this student studies Biology?

[2]

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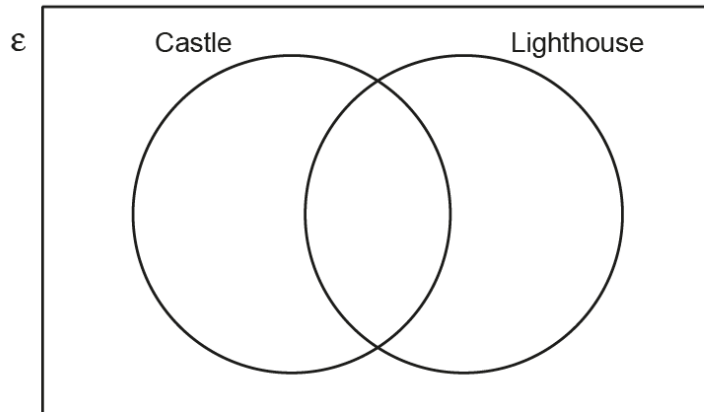
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June 2017 – Maths – P1

7. A group of 20 people visited Anglesey for a weekend break.
- 10 of the group visited Beaumaris Castle.
 - 13 of the group visited South Stack Lighthouse.
 - 4 of the group did not visit either of these places.

(a) Complete the Venn diagram below to show this information.
The universal set, ϵ , contains all of the 20 people in the group.

[3]



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(b) One person is chosen at random from the group.
What is the probability that this person visited only one of the two places?

[2]

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