

GRAYS TUITION CENTRE – Online Tutoring

WEEK: 22

Week Beginning: (17/08/2020)

Subject: **MATHS**

Year: 9

Lesson Objective:

- We will continue looking into Venn diagrams and proceed to explore more complicated notation and combinations
- Developing a better understanding of overlaps and unions of Venn diagrams

Class Worksheets

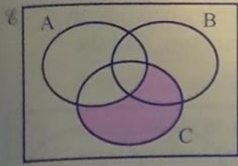
- Pages 245-247 GCSE Maths 4-9 Elmwood (Blue book)

Homework

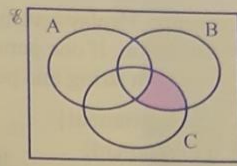
- Complete any remaining classwork questions

Additional Notes

- All homework from last week will be marked at the beginning of the lesson. Make sure that you have your homework with you in the lesson and are ready to mark it
- **Also prepare any questions if you struggled with the homework so I can help you.**
- All lesson worksheets and homework for next week (**due Week 23**) worksheets can be found below



$A' \cap C$ is shaded pink

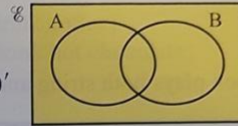


$(A' \cap C) \cup B$ is shaded pink

M8.6

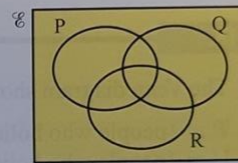
- 1 Draw 4 diagrams like the one shown opposite. Shade each of the following sets.

(a) $A \cup B$ (b) $A \cap B'$ (c) B' (d) $(A \cup B)'$

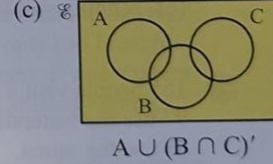
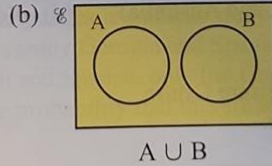
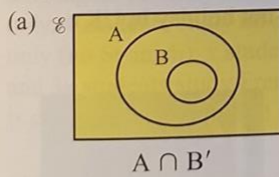


- 2 Draw 9 diagrams like the one shown opposite. Shade each of the following sets.

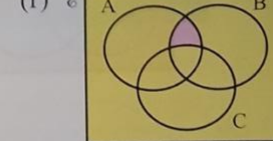
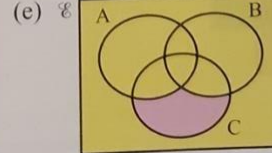
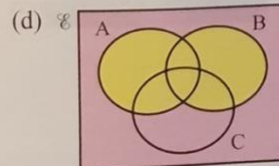
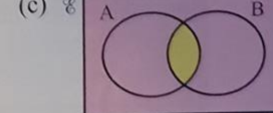
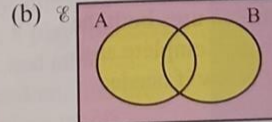
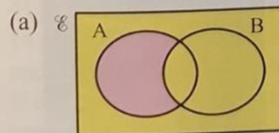
(a) $P \cup Q$ (b) $(P \cup R) \cap Q$
 (c) $P \cap R'$ (d) $P \cap (R \cap Q)$
 (e) $P \cap (R \cup Q)'$ (f) $R' \cap (P \cup Q)$
 (g) $(P \cup Q \cup R)'$ (h) $(P' \cap Q) \cap R$
 (i) $(P \cap Q) \cup (R \cap Q)$



- 3 Copy each diagram and shade the sets indicated.

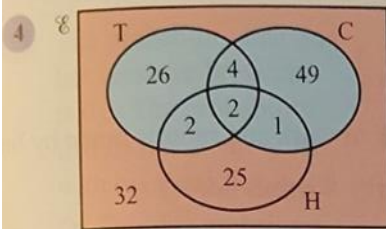


- 4 Describe each pink region.



- 3 46 people attend an Arts day.
18 are writers
22 are artists.
5 are both writers and artists.

If one of these people is chosen at random, find the probability that this person is not a writer or an artist.



The Venn diagram shows
 $\mathcal{E} = \{\text{people in a coffee shop}\}$
 $T = \{\text{people who drink tea}\}$
 $C = \{\text{people who drink coffee}\}$
 $H = \{\text{people who drink hot chocolate}\}$

If one person is chosen at random then find

- (a) $p(\text{drink tea})$
 (b) $p(\text{drink tea and coffee})$
 (c) $p(\text{drink hot chocolate but not tea})$
 (d) $p(\text{drink no coffee})$
 (e) $p(\text{drink tea, coffee and hot chocolate})$
 (f) $p(\text{drink coffee and hot chocolate but no tea})$
- 5 All of 77 Year 11 students at Henton High School study at least one of three languages. 16 study French only, 8 study German only and 19 study Spanish only. 4 students study all 3 languages, x students study French and German only (no Spanish), x students study German and Spanish only (no French) and $3x$ students study French and Spanish only (no German). If one student is chosen at random, find the probability that this student studies French.
- 6 135 people play at least one sport of tennis, rounders and athletics. 65 play tennis, 41 play rounders and 68 play athletics. 14 play tennis and rounders, 8 play rounders and athletics, 24 play tennis and athletics. If one person is chosen at random, find the probability that this person plays tennis, rounders and athletics.

